The Oil and Gas Journal

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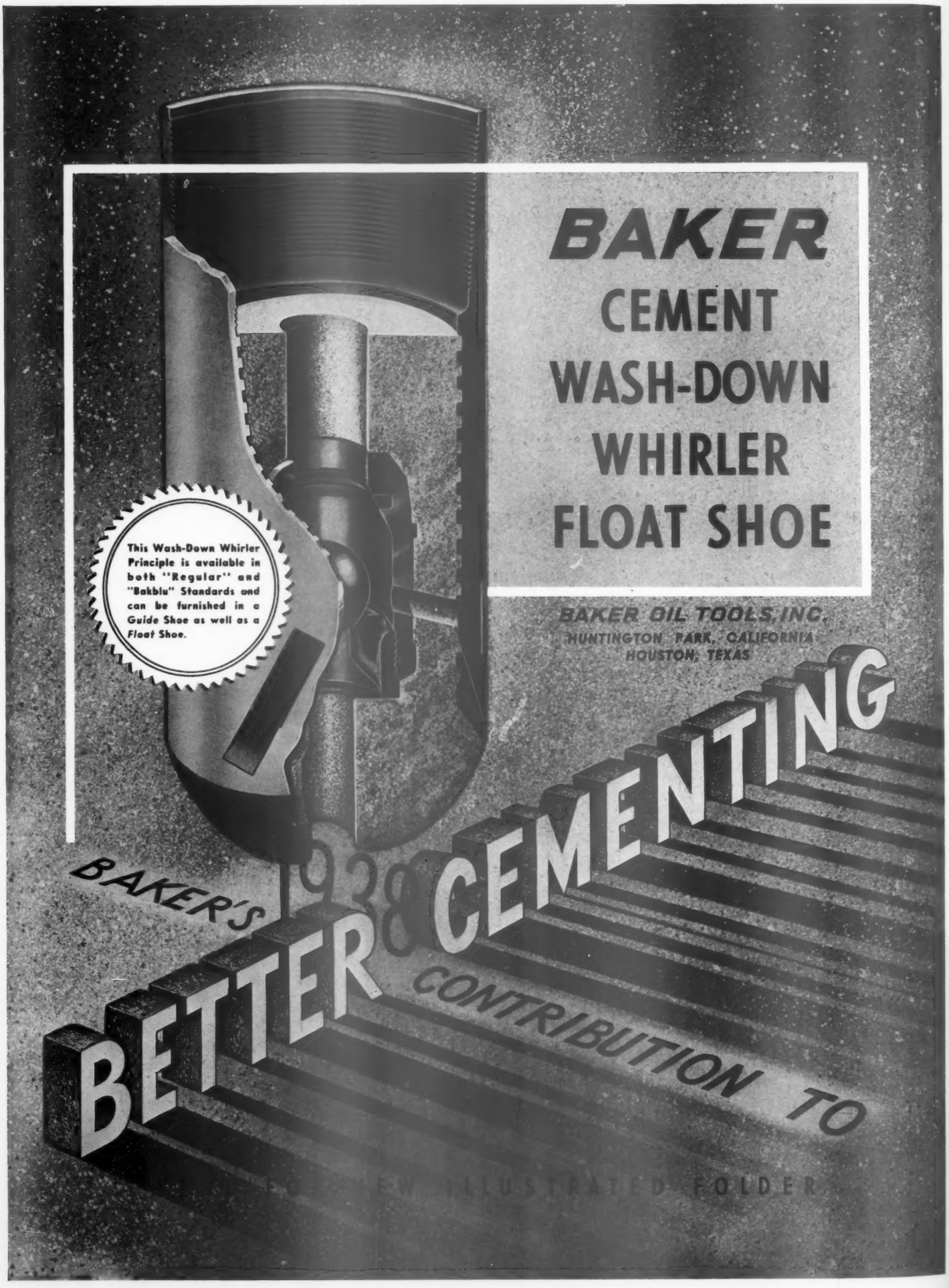
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1938
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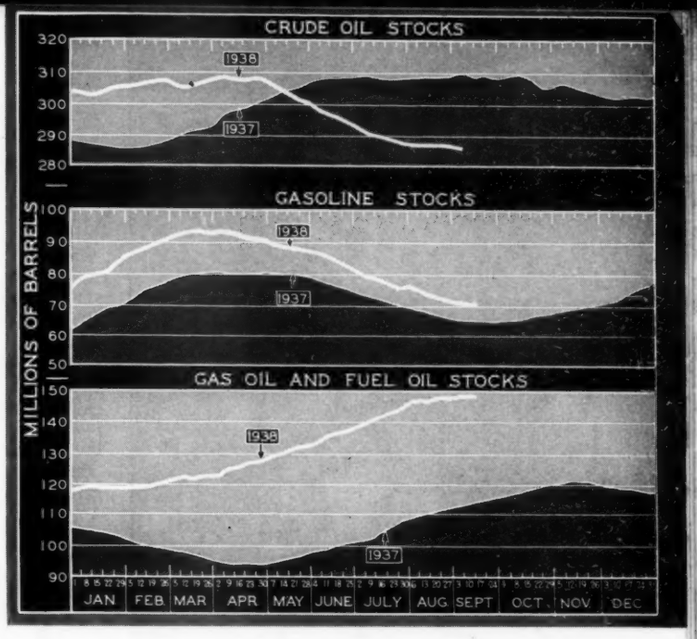
Trends

Oil Output Drops to Lowest Levels in Several Weeks


CRUDE OIL STOCKS
GASOLINE STOCKS
GAS OIL AND FUEL OIL STOCKS
MILLIONS OF BARRELS
1938
1937
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

A REDUCTION of 181,489 barrels daily in Texas crude oil production, reflecting the full effect of the Saturday shutdown program inaugurated September 1, more than offset increases in some of the other states, so that national crude output last week was the lowest since the first week in July. It is expected that total output will continue at approximately last week's levels over the remainder of the month.

CRUDE PRODUCTION *3,207,919 barrels daily average — down 146,072. One year ago 3,626,129 barrels.*

CRUDE STOCKS *284,919,000 barrels as of September 3—down 110,000. One year ago—310,417,000 barrels.*

GASOLINE STOCKS *70,860,000 barrels as of September 10—up 346,000. One year ago—66,456,000 barrels.*

GAS AND FUEL OIL STOCKS *149,104,000 barrels as of September 10—up 1,458,000. One year ago—114,666,000 barrels.*

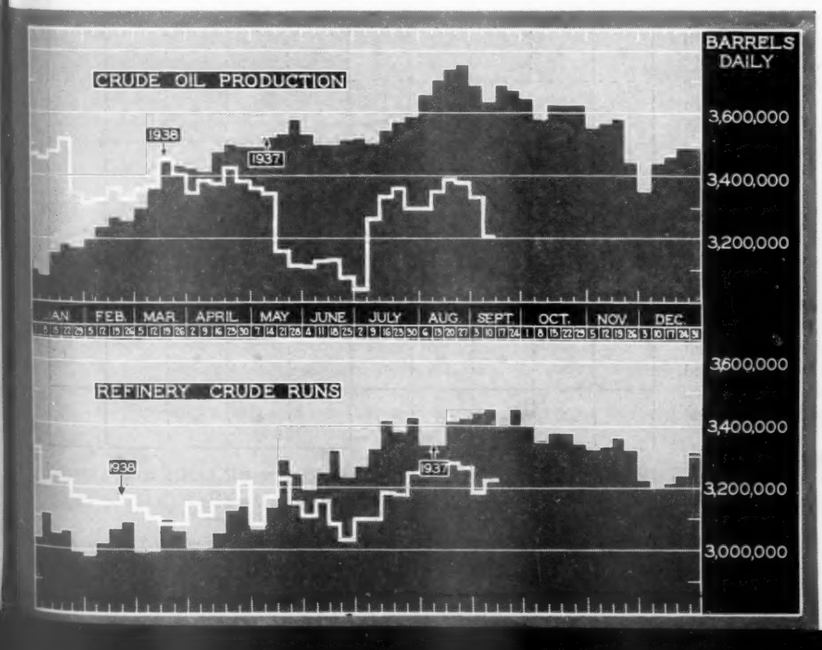
REFINERY RUNS *3,235,000 barrels daily week ending September 10—up 40,000. One year ago 3,455,000 barrels.*

Considered as a unit, United States crude output is now 200,000 barrels less than total export and domestic demands, and continued heavy withdrawals from aboveground crude storage are in prospect. The crude situation, however, does have spots where conditions are unsatisfactory and where adjustments will be necessary from time to time if more serious difficulties are to be avoided. The steadily increasing production of Illinois, which last week reached 78,000 barrels daily, is a direct threat to operations in Kansas and Oklahoma. Coming at this season of the year, any increase in Illinois production means reduced crude markets for other areas, particularly the Mid-Continent. Predictions are heard that Illinois' output will reach 100,000 barrels daily within the next few weeks, provided a curtailment program is not made effective.

The filing of a suit in Texas questioning the legality of well potentials in East Texas as a basis for allowables is considered important as another indication of possible weakness in the application of conservation regulations. There are students of the oil industry, who, while in entire sympathy with the conservation efforts of individual states, question the legality of some acts of enforcement, not only in Texas, but other states. They incline to the belief that the ironing out of these conditions is the most important long-range problem confronting the industry at this time.

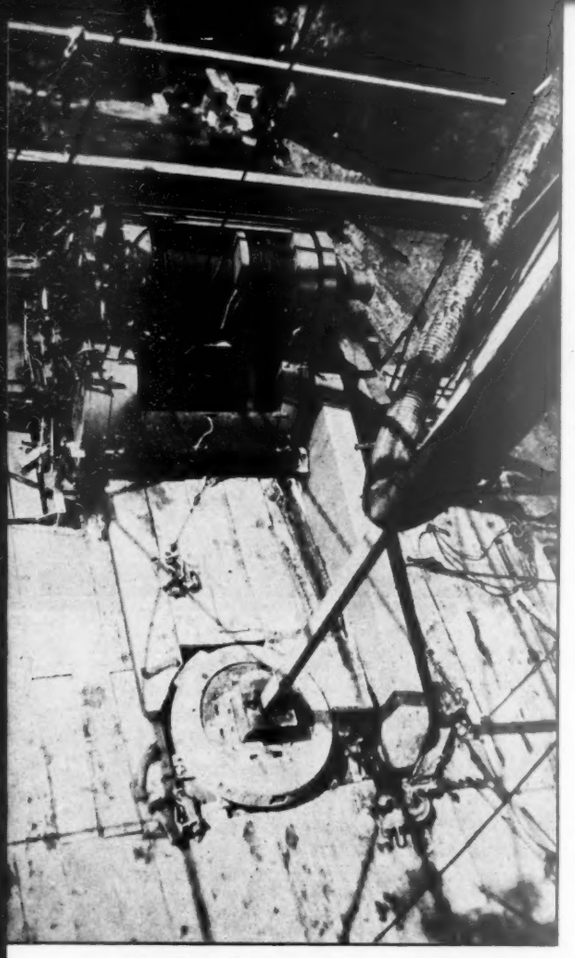
The Bureau of Mines (see page 39 this issue) covering July operations in detail explains some of the market developments that took place during that month. A disappointing domestic demand for most of the refined products—the most important of which was a 6 per cent decline in gasoline demand compared with July, 1937—detracts somewhat from the strong demand situation shown for the first six months of this year. For the first time this year the accumulative data show domestic gasoline demand running behind 1937. Fortunately, continued heavy exports of gasoline gave the industry a 2 per cent gain in total demand for the seven-month period ending August 1.

A large decline in kerosene exports in July contributed to the statistical situation which on August 1 found stocks nearly 40 per cent greater than on the same date a year before.



DAILY AVERAGE PRODUCTION FOR WEEK

	Sept. 10, 1938	Bur. Mines Sept. est.	Sept. state allowables	Sept. 3, 1938
Oklahoma City	107,125	.....	.....	95,925
Fitts	38,850	.....	.....	36,900
Remainder of state	301,525	.....	.....	299,575
Total Oklahoma	447,500	528,300	428,030	432,400
East Texas	368,349	.....	.....	440,787
West Texas	186,350	.....	.....	219,629
North Central Texas	97,200	.....	.....	104,736
Texas Panhandle	61,298	.....	.....	72,618
East Central Texas	90,850	.....	.....	96,539
Gulf Coast Texas	313,998	.....	.....	350,596
Southwest Texas	92,600	.....	.....	107,229
Total Texas	1,210,645	1,398,600	1,233,248	1,392,134
North Louisiana	80,330	.....	.....	78,845
Gulf Coast Louisiana	190,750	.....	.....	189,134
Total Louisiana	271,080	255,300	260,260	267,979
California	665,900	638,300	610,000	651,750
Kansas	154,300	168,000	165,000	161,200
Arkansas	58,355	53,700	.....	56,920
Illinois	77,947	49,000	.....	71,160
Michigan	51,192	57,000	.....	49,698
Eastern fields	95,100	100,300	.....	93,000
New Mexico	107,130	111,600	106,000	106,880
Rocky Mountain area	68,770	84,200	.....	70,870
Total United States	3,207,919	3,444,300	.....	3,353,991



How the derrick floor on a rotary rig appears to the man on the fourble board

Illinois Profits Science

By L. G. E. BIGNELL

Oil producers in the new Illinois fields, about 250 miles south of Chicago, are planning to equal the efficiency of the packing industry in using every part of the hog but the squeal by utilizing all gas and oil produced, losing only the smell.

This application of modern development and production practices will be a direct contrast to the methods followed more than 30 years ago when the oil fields in Cumberland, Clark, Crawford and Lawrence counties, Illinois, were developed. Many of those old wells were lost because of poor casing jobs which failed to shut off upper waters and as a result the producing formation was quickly flooded. Or the holes were drilled too deep and bottom water broke in and spoiled the production.

Rotaries Replace Cable Tools

The old fields were drilled with cable tools while the new fields on the west side of the basin are being drilled with modern rotary outfits and then checked by electric coring. Casing is being set through upper sands and cemented from top to bottom and, if there are prolific formations which will produce, the casing is perforated with bullets from a special gun lowered into the hole and discharged by electricity controlled from the surface. Two or more sands may be produced through the same string of casing in this way.

While many of the holes are being drilled by rotary tools and the larger fields are to be developed in an orderly and modern manner, there is still plenty of evidence of old drilling and producing practices to be found in many of the town lot booms that have been carried on in Centralia, Noble and Olney. There the operators have been actuated by one thing only, to get to the sand as quickly as possible and produce all of the gas and oil they could get in the shortest possible time. That kind of development and production methods may make for quick returns for the operator but for the land and royalty owner it will mean loss of a very appreciable volume of the oil that can be recovered if the field is operated properly.

To avoid those wasteful methods the larger companies are planning very orderly development and producing campaigns. It may be argued that such companies do not need to get quick returns because they can well afford to make the investment. Larger companies are actuated by the same general motives as smaller companies or individuals so far as quick returns are concerned but experience has proven to them it is much better in the long run to defer immediate large returns for more complete recoveries and ultimately greater profits, and, in last analysis, every operator and land owner is really interested in securing all of the gas and oil possible from the underground reservoir.

When the sand pools on the west side of the basin were opened the production men from the Mid-Continent area really became interested in the Illinois basin play. The major companies who were in the area early blocked large bodies of leases and those blocks are now forming the units to which modern development and production methods will be applied. As soon as sufficient acreage had been secured to justify the company in making a geophysical survey this work was started.

The Pure Oil Co., Carter Oil Co., Magnolia Petroleum Co., Texas Co., Gulf Oil Corp. and other major companies have followed this general line of procedure and, now that oil has been found under many of these large tracts, those companies are turning the further work of development over to the engineering departments. Carter Oil Co. has about 18,000 productive acres in the Louden or Beecher City field, in Fayette County.

Production is found in sand zones of Chester series of upper Mississippian age, of which the Weiler and Benoist zones are estimated to be able to produce approximately 5,000 bbls. of oil per acre.

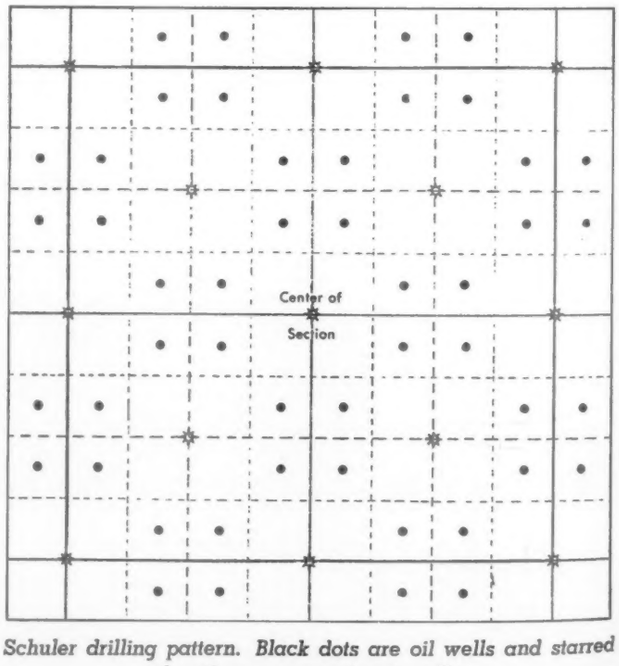
To secure this oil it is going to be very necessary to follow the most modern development and production practices. While Carter Oil Co. does not own a solid block of acreage in the Louden field it does have 18,000 acres covering an area about 12 miles long from northeast to southwest and approximately 3 miles wide. Much of this land is blocked solid, so it will be possible to apply a pressure drive and pressure maintenance method of production to obtain the greatest ultimate recovery.

These modern production methods have been developed in the Mid-Continent area and may be briefly described as follows:

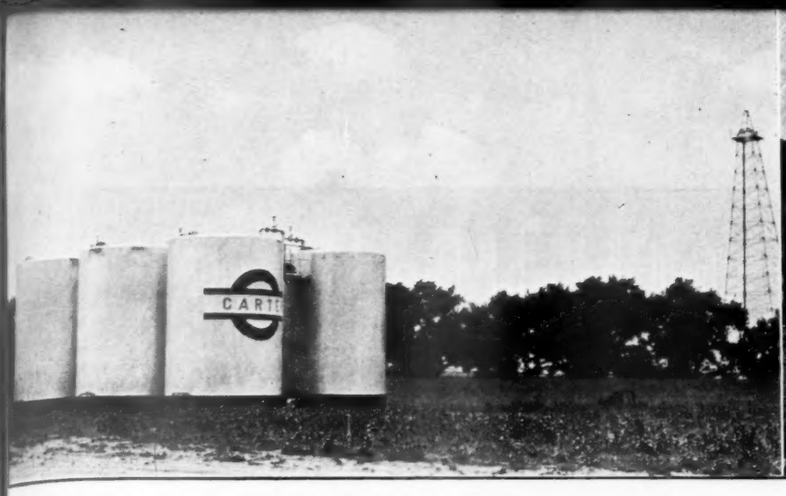
In any pool there is a condition of equilibrium existing in pressures and position of gas, oil and water when the first well is drilled. This equilibrium was arrived at during geologic ages during which the gas and oil were accumulating. As soon as the first well is drilled into the producing formation, and gas and oil allowed to escape, this natural condition is disturbed. The natural energy stored in the underground reservoir is released and it can either be controlled and made to do useful work, or it can be dissipated and only a small amount of the natural energy used.

In the old days it was considered good practice to flow the wells wide open and use all the gas possible, because it was believed that, after this gas had been dissipated and a settled oil production stage reached, the wells would produce more oil ultimately. This theory has been proven wrong and modern engineering practice aims at conserving as much of the gas stored with the oil as possible, in this way securing the highest possible ultimate recovery.

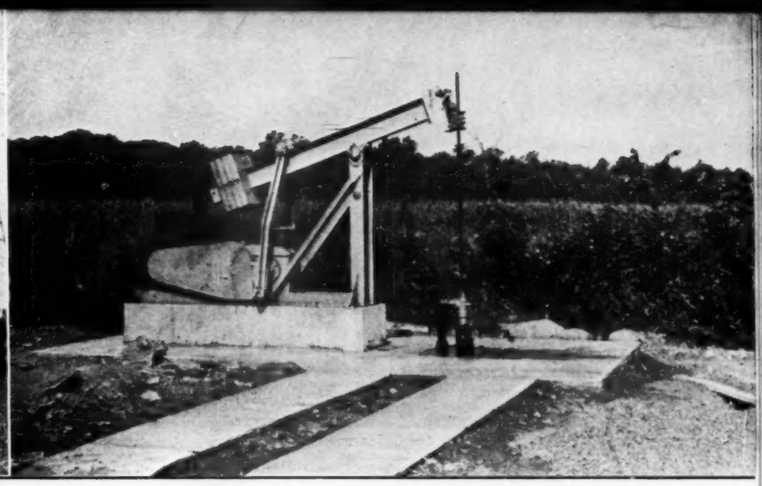
To get the best results, modern engineering requires that all gas that has accompanied the oil from the well shall be conserved, and after the natural gasoline has been removed from it by passing the gas through plants designed to recover this natural gasoline, the dry gas is pumped back into the producing formation from



Schuler drilling pattern. Black dots are oil wells and starred locations are gas input wells



Battery of 210-bbl. welded steel tanks and well on Illinois lease



Close-up of Carter Oil Co. No. 1 Manzy, Birk City pool, Kentucky

by Modern

which it came. In this way energy is restored to the reservoir and the maximum volume of oil recovered, while the gas is being stored to be later available for domestic or industrial purposes.

To illustrate: If the 18,000 productive areas controlled by Carter Oil Co. in the Louden field will produce 5,000 bbls. of oil per acre, this field will ultimately yield 90,000,000 bbls. of oil. If each barrel of oil is accompanied by 400 feet of gas about 36,000,000,000 feet of gas will come from this reservoir also. If this gas has a market value of 8 cents per thousand it would mean a loss of nearly $3,000,000 in revenue if it is dissipated to the air or burned. This is only part of the loss, if it is not returned to the reservoir the formation pressures will drop more rapidly and the oil will thicken and be harder to recover, which will mean further cost in production and less ultimate recovery.

"Conservation," Key Word

In Oklahoma, Carter Oil Co. has pioneered in the application of pressure maintenance and modern producing methods on unitized blocks in South Burbank and also in the Keokuk Falls fields. The results have been so definitely gratifying it has been decided to apply those modern methods to the fields in which Carter Oil Co. has large interests in Illinois and Kentucky and benefit by the knowledge gained elsewhere. This same statement is true of other major oil companies and it is believed many smaller operators will also follow conservation methods in operating their leases when they realize the benefits to be derived.

In Louden pool Carter Oil Co. is using the Schuler plan of well spacing, so-called because it was first applied in the Schuler field, Arkansas. The plan provides for a 20-acre spacing pattern with two wells for each 40-acre tract located in the opposite corners and spaced on regular 10-acre locations. Eight wells are drilled in each quarter section and with this spacing pattern two wells will be located along each side line of the 160-acre tract.

The input wells, into which the gas to be returned to the sands is injected, are located equidistance from all of the oil wells on the 160-acre tract. With this spacing plan there will be eight oil wells and two input wells serving each 160 acres as shown in the accompanying sketch.

The oil wells are usually drilled with rotary outfits and carried to the Benoist sand found at about 1,500 feet in this field. This zone will vary from 14 to 20 feet in thickness and is well saturated but the engineers in charge of this work have placed the expected recovery at 2,500 bbls. of oil per acre. The formation pressure is about 675 pounds and accompanying each barrel of oil there is about 400 feet of gas and this condition makes it very necessary to start recharging operations as soon as possible.

Two 300-hp. angle-type compressors are being installed on the Carter lease in Section 15-8n-3e, and will be used immediately to compress the gas to 700 pounds per square inch pressure after it has been separated from the oil by passing the oil and gas through separators. At this pressure two compressors will handle 2,500,000 feet of gas daily and extract about 2 gallons of gasoline from each thousand feet of gas. The gasoline content of this gas will range from 1½ to 3 gallons per thousand feet. Later Carter Oil Co. will install a complete pressure and gasoline plant with booster stations scattered through the field so that all gas coming from separators and lease stock tanks will be conserved and sent to the natural gasoline plant for final handling.

In the system contemplated the oil will be produced only at such rate as to fully control the movement of the compressed gas returned to the producing formation. As the gas goes down an input well located either in the center or at the corner of a 160-acre tract it will tend to move toward the edge of the tract and be produced through the oil wells. By checking the rate of production and bottom-hole or formation-pressure drop it will be possible to determine whether gas is tending to channel across one part of the lease to the detriment of other portions. If a well is not producing efficiently it can be shut in or the rate of production retarded and the gas movement controlled in this manner.

Method of Drilling

As the wells are drilled with rotary tools only one string of casing is set. This flow string, usually 6-inch, is set through the upper producing formations and on top of the Benoist sand found at about 1,500 feet. The space between the drilled hole and the outside of the casing is filled with cement from top to bottom. The Weiler zone, which is above and separated from the Benoist zone by a shale formation, is located accurately by a study of the well cuttings and by checking with electric coring instruments before casing is set.

The oil wells will be allowed to produce into the 6-inch flow string and the formation pressures of the upper and lower pay zones are near enough to prevent the gas or oil from by-passing to the other formation. To maintain this formation pressure, the casing in the gas input wells will also be perforated opposite the Weiler zone and a string of tubing with packer will be run inside the casing and in this way it will be possible to deliver gas at proper pressures to both zones at once. The Weiler zone will be charged with gas forced down the annular space between tubing and casing and diverted into the formation by the packer set on the tubing below the Weiler zone and above the Benoist. The Benoist zone will be charged with gas pumped down the tubing and prevented from escaping upward by the packer set below the Weiler zone.

This plan of production contemplates the delivery of all gas and oil into oil and gas separators and into welded or bolted gas-tight tanks. Gas will be taken from the separator and tanks and passed through a pressure plant where it will be compressed to about 250 pounds per square inch and passed through an absorber unit to extract the natural gasoline. The gas from this absorber will then pass to another cylinder of the compressor and be compressed to about 700 pounds to be returned to the formation.

Butane and Propane Utilized

The natural gasoline removed in the absorber will then be further subdivided into butane and propane and stabilized gasoline. Gas from the lease storage tanks will also go through this same cycle and no gas will be dissipated into the air or burned in flares but all gas will be compressed to high enough pressure to be returned to the producing formations to augment the natural energy contained in the reservoir and thus to obtain increased ultimate production.

The system further contemplates economy by using the butane and propane as fuel for operating the compressors and other machinery on the lease. The market for those liquids is limited, and, instead of burning gas which can be better used to maintain pressures, the butane and propane will be used for fuel power units. As it is intended to install electric generating plants on the lease to provide electric power for the pumping of all wells and for other power requirements, the butane or propane will be used for fuel. There are now two generating sets on the property consisting of 125-hp. internal combustion engines direct connected to alternating current generators. One is in Section 11 and the other in Section 15, and the power generated is used for pumping oil wells.

This entire system contemplates the development of the leases in the most efficient manner but with the fewest number of wells, the use of all oil and gas produced and the maintenance of formation pressures as long as possible and ultimately to have stored all of the gas originally in the formation in such a manner as to permit its future recovery and use. The rate of production will be regulated to give the best possible working conditions regardless of market demand, because in the long run it is not the speed with which the gas and oil is secured that is so important as the conservation and greatest ultimate recovery of those natural resources.

SPARKS FROM THE NEWS

UNDER 1937

A 6 per cent decrease in domestic gasoline demand in July materially changes the accumulative data for this year, domestic consumption being under 1937 for the first time. Exports continue far ahead of last year's.

THREES

Three Oklahoma wildcats located in three counties opened three new pools last week.

PULLS AWAY

In the race for seventh place among the oil-producing states Illinois pulled away from Arkansas and Michigan with an output of 78,000 barrels daily last week.

20,000-FOOT?

Tests in several counties having proven unsuccessful, they now are threatening to drill to 20,000 feet in Mississippi.

ARKANSAS DEVELOPMENT

Three dry holes have detracted from the importance of the Magnolia pool in Columbia County, Arkansas.

PROFIT BY MISTAKES

Shreveport, with a townlot development in the offing, proposes to study Oklahoma City methods. Here is chance to profit by mistakes as well as accomplishments.

PEPLESS

A natural gasoline manufacturer opines that there is more pep in his volatile product than there is in the market on which it is being sold.

SUPPORT WEAKENS

Support of farmers for alcohol-blended motor fuels weakens when it comes to buying the product and using it in their own cars.

CHANGING VIEWS

As in many other areas of the past, new discoveries in Michigan have necessitated new geological interpretations.

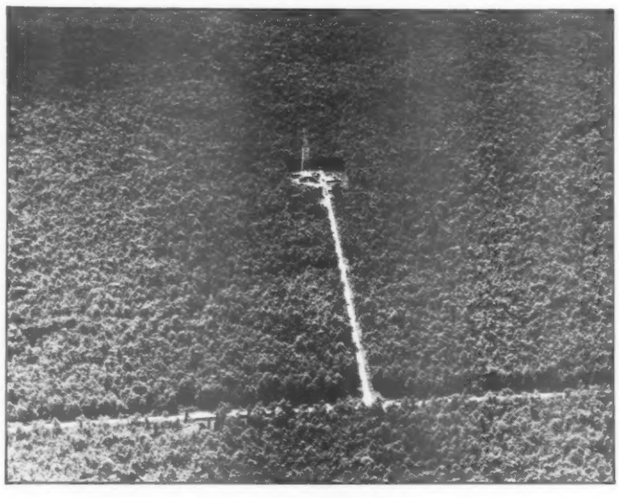
QUANTITY OPERATION

Four tankers carrying 20,000,000 gallons of Texas crude oil docked at a Philadelphia refinery terminal last week. Gasoline from this crude will furnish yearly requirements of 13,000 cars.

WELL-SPACING

A suit filed by an East Texas operator will test the validity of a proration which in effect has permitted a well drilled on one acre to produce as much oil as one drilled on 10 acres.

SECLUDED LOCATION



Sun Oil Co. discovery well on Chacahoula dome, Lafourche Parish, Louisiana, is in a vast timbered swamp and reached by a half-mile trestle road built on piling

OPPORTUNITY

Southern Illinois' first oil boom at the turn of the century was short-lived, largely because of wasteful operating methods. It now can become an active oil area for many years by supporting those operators who proceed on a truly conservation basis.

WAR FACILITY

France is to build a 280-mile pipe line to facilitate movement of motor fuels in times of war and peace. Gasoline lines in the future will spread to all countries where there is a large consumer demand.

Many Kansas Fields Have No Pipe Lines

By DAL DALRYMPLE

A new oil pool was opened in Kansas last week, new producing horizons were uncovered in two other pools, two proven areas were connected by an intermediate well, and some older fields were extended!

A fine week's record for any oil state, yet a routine report for Kansas, where upward of 40 strikes already have been recorded in 1938. And that in a year in which operations have been greatly curtailed, with few others than "forced" wells being drilled and completions declining from 1,734 in the first eight months of 1937 to 1,098 in the corresponding period of 1938.

Week after week new producing sectors are found in Kansas, month after month potential production of Kansas fields increases, and—week after week, month after month the percentage of allowable production of Kansas oil declines as the potential yield increases. Kansas producers have crude oil in constantly increasing amounts, but they have a market for only an infinitesimal percentage of it.

Thus the great hue and cry from Kansas producers that their state is being discriminated against by the purchasers of crude petroleum. Without considering the whys and wherefores of this lack of Kansas market, a glance at the figures will show cause for the plaint of the producers.

In September, 1933, potential production of Kansas wells was 213,696 bbls. of oil daily. About that time a period of exploration got under way and continued more or less steadily until August, 1938, when the state's potential production had attained the record figure of 3,484,810 bbls. of oil daily. The increase by years was as follows:

	Bbls.
September, 1933	213,696
January, 1934	314,600
January, 1935	368,038
January, 1936	861,682
January, 1937	1,667,814
January, 1938	3,069,880
August, 1938	3,484,810

Surpassed by Two

Thus, the producers claim, Kansas has the third largest potential production among the oil states, being surpassed only by Texas and California. A tabulation of proven reserves, compiled by The Oil and Gas Journal as of January 1, 1938, listed Kansas as fourth, being surpassed by but rapidly gaining on Oklahoma. At that time Oklahoma's reserves were declining and those of Kansas were increasing.

The low market demand for Kansas crude oil, then, stands out in contrast.

At the beginning of 1934 Kansas, with its potential of 314,000 bbls. daily, had an allowable production of 110,000 bbls. daily, or 37 per cent. That permitted the operators and producers to make a profit, and they were willing to join other states in prorating and conserving their crude.

Currently, the state's allowable is 165,500 bbls., with actual sales running around 155,000 bbls. daily, or less than 5 per cent of the August potential.

The average cost of drilling a well in central and western Kansas, where most of the production is found, is $30,000. How, then, is an operator with a 1,000-bbl. well going to pay operating expenses, not to mention making a profit or paying off his investment, when he can sell only 5 per cent of his production?

Small Percentage

The 5 per cent allowable figure is high for many Kansas pools, percentage ranging less than 2 per cent in some instances.

A recent tabulation of the Corporation Commission disclosed that 36 Kansas pools were without pipe line connections. That number has been increased by three or four new pools lately opened and still without outlet. The pools listed as having no pipe line connections include: Albert, Odin-Arbuckle, in Barton County; Aldrich, Ness County; Anness, Latta, Tate and Zyba, Sumner County; Blue Hill-Arbuckle, Blue Hill-Lansing, Burnett, Emmeran, Koblitz, Richards, Ubert, Windholt in Ellis County; Bunker Hill, Russell County; Bonham, Fischer, Jordan, Kipp, Leesburg, in Stafford County; Dopita, Westhusin, Zurich, among others in Rooks County; Iuka, Pratt County; Lake City, Whelan, in Barber County; Lindsborg, McPherson County; Morel, Graham County; McCune, Crawford County; Morrison, Clark County; Nunn, Finney County; Otis, Rush County; Pawnee Rock, Pawnee County; Sterling, Rice County; Wakeeney, Trego County.

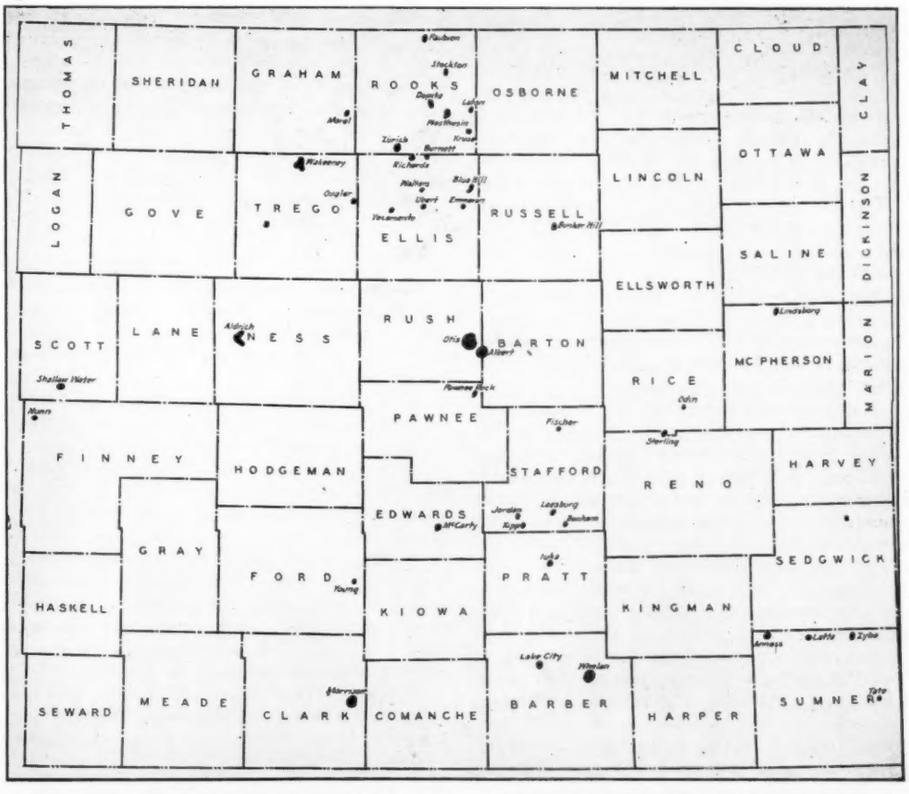
While a majority of those pools produce some oil, marketed by truck or tankcar, their production naturally is limited because of the lack of pipe line connections—a situation causing considerable trouble and expense in finding auxiliary methods of marketing the product. Construction of a refinery at Shallow Water provided a market for the Shallow Water and Nunn pools, farthest west producing areas in the state. Most of the other isolated areas, however, have no refinery near at hand.

Development Curtailed

Not only has this lack of market held down production, it has greatly limited development of proven areas and curtailed exploration of wildcat territory. There are numerous one-, two- or three-well pools scattered over western Kansas where further drilling has been delayed due to lack of demand for the oil. Again, there are numerous pools with two or more proven oil zones but with only one horizon being developed, the others being held in reserve.

Some 10 years ago there was a great leasing campaign in Kansas, many thousands of acres of long-term leases being taken. Many of those leases are nearing expiration dates and the lessees must choose between letting the lease lapse or drilling a well. Thus numerous operators drill such "forced" wells, accounting for the bulk of the field activity in Kansas now. Some may obtain renewals of their leases, others will let them lapse.

Nearly every section of Kansas has possibilities of oil and gas production. But it seemingly is easier to find oil in Kansas than it is to find a market for the state's crude output.



Numerous western Kansas oil pools have no pipe line connections. Oil from some of the pools shown on the map is marketed by truck and tankcar, while others have no outlet whatever. Pools having pipe line connections were eliminated from the map for clarity

GENERAL FEATURES OF MICHIGAN STRUCTURAL GEOLOGY

By R. B. Newcombe

Consulting Geologist, Mount Pleasant, Mich.

FUTURE ARTICLES

This is the first of a series of articles regarding developments in Michigan written exclusively for The Oil and Gas Journal by R. B. Newcombe. He was formerly state geologist and has made a close study of developments in that state over a long period of years. The second article will be on the "Geology of the Clare County Development in Michigan," and the third on "Geology of Allegan County and Surrounding District."

Only a score of years ago the general conception of the structural geology of the Michigan basin was that it was like a "pile of saucers." At one time it was thought that the only important structural warpings within the basin were folds arranged like the spokes of a wheel plunging into the center and they were described as wrinkles like those in a filter paper when pressed into a funnel.

As drilling took place in central Michigan after the discoveries at Saginaw and Muskegon, this early conception was shown to be somewhat in error. The prevailing structures were northwest-southeast trends consisting of asymmetrical folds that had their steeper dips on the basinward side. The first trends worked out by the results of close drilling were more or less parallel to each other and somewhat equally spaced. The pattern seemed simple and uniform.

Now even this conception of five years ago is changed. Today it is known there are several distinct structural provinces in Michigan, and the parallelism and the uniform spacing of structures is not so perfect as was first thought.

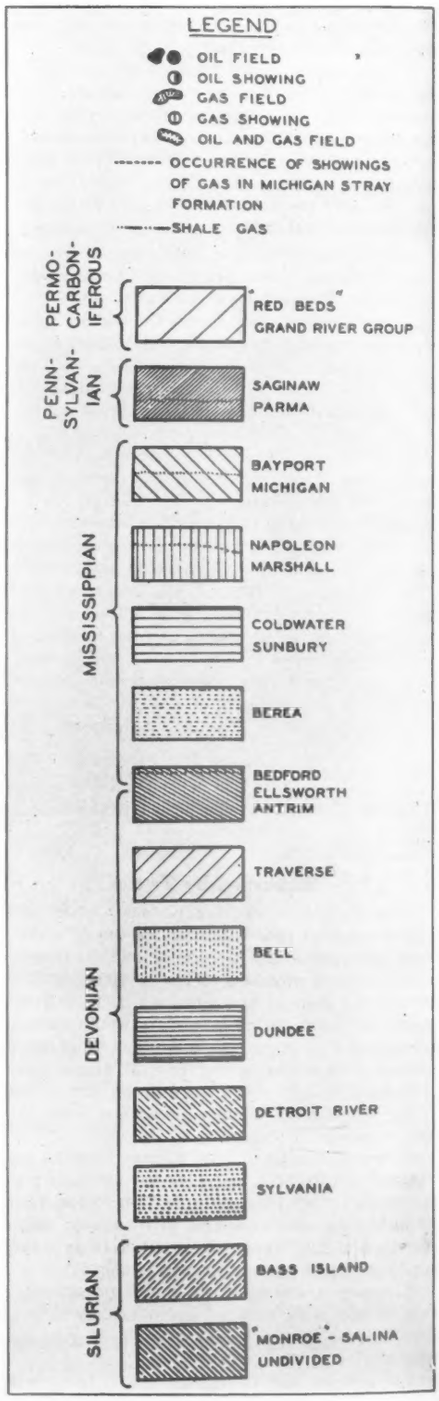
The productive structures are indicated on a recent map of the areal geology, and it can be readily seen that the perfect analogy to a "pile of saucers" no longer applies. There are several indentations in the concentric circles of formation boundaries, and several isolated outcrops under the glacial drift are distinctly out of place from the perfect pattern of things. In fact, the circles are roughly squared off on the north, south, east, and west so the pattern is more rectangular than it is circular.

The structural provinces of the known lines of anticlinal folding in Michigan may be classified as follows: (1) The Howell area and southwestern Michigan; (2) the Saginaw area and "Thumb" region; (3) the central Michigan area; (4) the West Branch area, and (5) the western Michigan area. Each of these provinces has certain common structural characteristics which tends to set it off from the others.

The Howell area is dominated by the Howell structure which is the largest known anticlinal feature in the state and shows up well on the geological map. The highest part of this structure is near Howell, the county seat of Livingston County, but it extends also across sections of Wayne, Washtenaw, Oakland, Shiawassee and eastern Clinton counties. There are several structural trends of lesser magnitude indicated parallel to this feature. One of these seems to cross Oakland County somewhere south of Pontiac, and the other two lying west of Howell cross roughly from a few miles north of Ann Arbor to the vicinity south of Lansing and beyond into western Clinton and eastern Ionia counties and from Dundee in Monroe County across the region slightly north of Jackson. All of these trends seem to be related to the northeast extremity of the Cincinnati arch and branch northwestward from steep westward dipping monoclines on the arch that are more nearly north-south in direction.

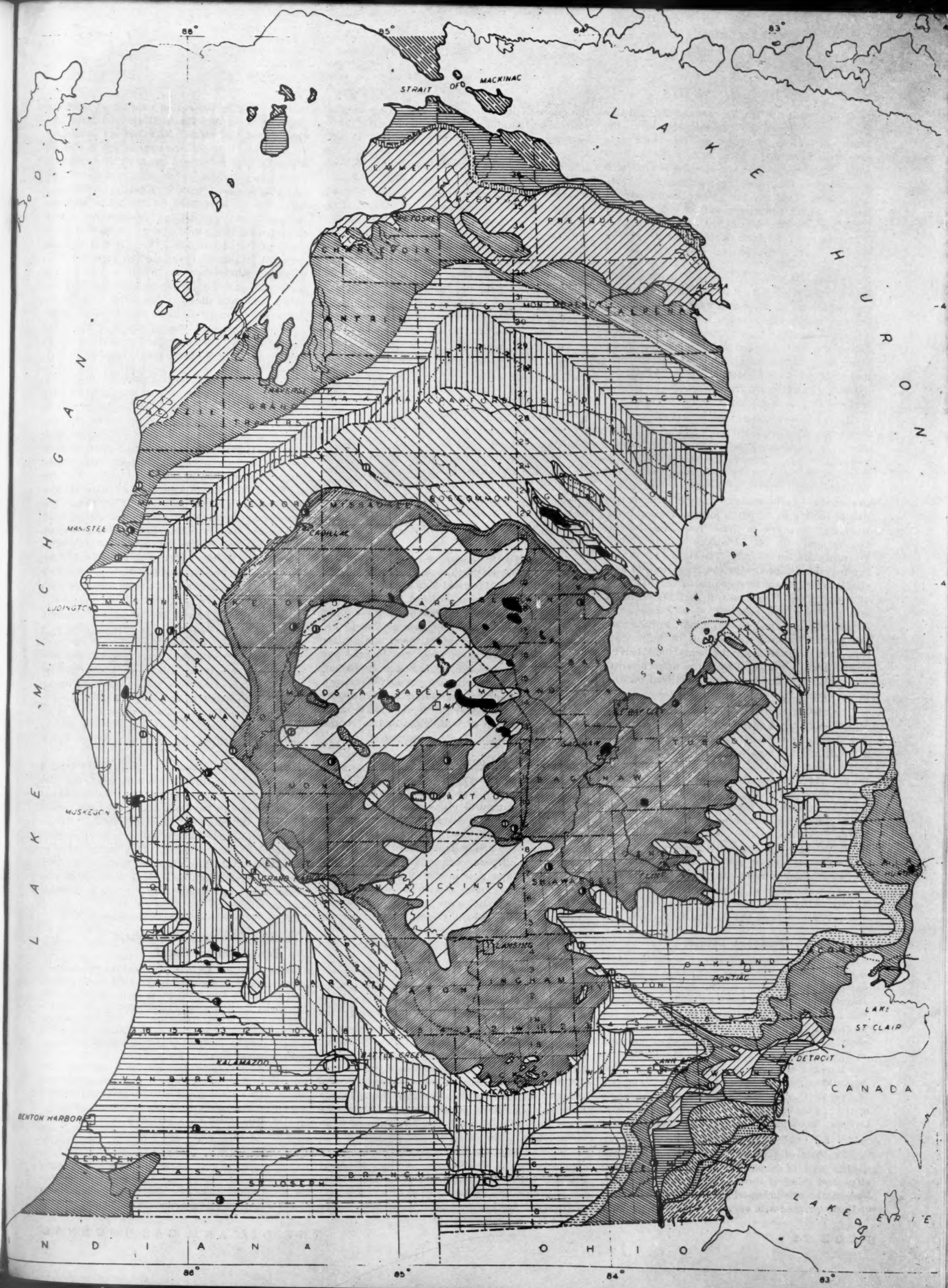
The "Thumb" Area

The Saginaw area may be described as that region including the "Thumb" part of Michigan and extending north of a line from Port Huron to Flint and east of a line from Owasso, Shiawassee County, to Bay City. In this area are several structures that are parallel to the originally discovered Saginaw anticline. These folds have trends that are slightly northwest from the vicinity of Port Huron toward Saginaw, but they are more nearly east-west in direction than those of the Howell area. They terminate rather abruptly a little west of Saginaw and seem to "blunt off" along a north-south line, but the disturbance that caused them was probably related to that which caused the folds in central Michigan. They develop into broad noses which pick-up again as stronger anticlines after crossing a few townships northwestward into the deeper part of the basin. The known lines of folding in this province are two and possibly three in the vicinity of Sebewaing, Bayport, and Caseville, Huron County; the Kawkawlin-Wisner



Map of areal geology of Michigan Southern Peninsula

Prepared by Geological Survey Division, Michigan Department of Conservation


LAKE MICHIGAN
LAKE HURON
STRAIT OF MACKINAC
MANISTEE
LUDINGTON
CADILLAC
MUSKEGON
GRAND RAPIDS
LANSING
PONTIAC
DETROIT
LAKE ST. CLAIR
CANADA
LAKE ERIE
KALAMAZOO
BATTLE CREEK
BENTON HARBOR
ST. JOSEPH
SAGINAW BAY
INDIANA
OHIO
85°
84°
83°
86°

structure north of Caro, Tuscola County, and Bay City, Bay County; the Saginaw structure; the Lapeer-Birch Run structure; and two other probable structures to the north and to the south of Flint. These structures are like the Howell area structures in that they are plunging noses with their steeper flanks on the west or basinward side, and they increase in sharpness from south to north until Saginaw Bay is reached. The Kawkawlin-Wisner structure which skirts the south side of Saginaw Bay is the strongest structure of the group.

The central Michigan area contains structures which fall in three general subdivisions: (1) Those east of Mount Pleasant and west of a southwest dipping monocline in eastern Gladwin County, (2) those north of Mount Pleasant where the regional dip of the basin and the plunge of the structures change from northwest to southeast, and (3) those west of Mount Pleasant in an area extending to a line drawn between Greenville and Howard City in Montcalm County.

East of Mount Pleasant are three lines of structure which have produced more oil than any other district in the Michigan basin. Thse are from west to east the Mount Pleasant trend, the Beaverton-Edenville trend, and the Buckeye trend. The Beaverton-Edenville trend seems to fork northwestward at its southeast extremity to form another line of folding on which is located Turner Petroleum Co. discovery in Wise Township, Isabella County, and Sun Oil Co.'s deep test in Jerome Township, Midland County. The closures that have led to important production on these lines of anticlinal structure are largely due to the flattening of regional dip in the central part of the basin, and to the strong elements of east-west cross-folding where the pools are localized. For the most part these trends dip most steeply to the west except some localities along the Beaverton-Edenville trend which is the gentlest of the three in structural relief and has the deepest regional position in the basin.

The district north of Mount Pleasant is one of regional structural change. The trends change in direction to a more northward course, and there is a "shuffling" of them where the regional dip reverses from northwest to southeast which shifts the prolongation of well developed structural axes. The Dundee producing horizons also change in this district, and it is generally thought that much of the Dundee has been removed by erosion. Both to the north and to the west of Mount Pleasant the fields show thin productive zones near the top of the Dundee horizon and the close proximity of the water level beneath the "pays" and the fine dolomitic character of these rocks has led many to believe that often the Dundee is entirely gone and production is in the Monroe formation.

Northern District

Except for structural test well operations, this northern district includes a vast region largely unexplored by the drill in several counties. Already two shallow gas fields north and east of Clare and the new Freeman-Redding field farther to the northwest have been discovered. Another trend about which little is known lies north of Harrison in Clare County and is roughly a prolongation of the Buckeye structure, Gladwin County. A third important structural trend in this district is located in Osceola County west of Evart, and the whole district will be greatly explored across Clare, Osceola, Roscommon, Missaukee, and Wexford counties in the next few years.

The lines of folding in the central Michigan district west of Mount Pleasant do not have the structural relief of those to the east of that city. Instead, the producing oil fields are small closures on broad terraces with very slight reversal opposite the regional dip. They usually have a somewhat circular outline and are at the intersection of northeast-southwest noses or east-west cross axes with the prevailing northwest-southeast trends. These trends include the Broomfield-Sherman high extending from Ithaca to Barryton, the Crystal-Edmore-Six Lakes high extending through Mecosta County east of Big Rapids to Reed City and beyond, and the Vickeryville-Stanton-Howard City high largely extending across western Montcalm County. The district is noted mostly for shallow gas production in the Michigan "Stray" sand of Mississippian age which occurs in widespread fields. The structure of the "gas sand" does not usually carry down to the Devonian rocks, and the occurrence of gas in large volume is as much due to sand conditions as to structure.

The West Branch area is a region of rather sharp folding situated north of Saginaw Bay and east of the Buckeye fields where the comparatively steep eastern Gladwin County monocline comes up out of the basin. These folds are characterized by the steeper dips on the northeast flanks and by the occurrence of black oil deep in the Dundee formation. They include from south to north the Pinconning-Secord trend, the Standish-Sterling structures, the West Branch-Clayton high, the Rose City high, and a possible trend across Iosco County. Among these the Standish-Sterling structures are somewhat in a class by themselves as they are complex and not related to any particular long trend of folding.

The western Michigan area varies in structural characteristics from north to south. The northwest district includes Manistee, Mason, Lake, Oceana, and northern Newaygo counties. A few small showings and one commercial field have been found in these counties, but drilling has not been sufficiently concentrated to reflect much light on the details of their structural geology. Broad noses plunging southeastward are indicated in eastern Lake County, in western Lake County from near Manistee, in southeastern Mason and northwestern Newaygo County, in west central Newaygo County from south of Ludington, and in central Oceana County from Hart to Hesperia.

Central West

The central western district of Muskegon, Ottawa, southern Newaygo, and northern Kent counties contain structural noses that plunge almost due east and trend east-west. Where these noses are crossed by the gentle warpings parallel to the northwest-southeast folds of central Michigan closures and oil pools occur. The Muskegon field is the only major pool in this district, but showings have been found elsewhere and east-west anticlinal axes exist across northern Muskegon County near the Oceana County line and across southern Muskegon County just north of the Ottawa County line. These axes also trend into Newaygo and Kent counties.

The southwest district of Allegan, Van Buren, Kalamazoo, western Barry, and small parts of southern Ottawa and Kent counties have just come into the limelight during the past two years. Despite old showings in the Traverse, the oil-bearing potentialities of this district were frowned on for a long time because the Dundee was largely absent by overlap. Now it has been demonstrated that suitable structures exist to trap commercial quantities of oil and that the Traverse has a locally remarkable uniform porosity due to reworking along the strand line and the formation of limestone debris.

Southwestern Michigan is located regionally on the east flank of the Kankakee arch or the west prong of the forking Cincinnati arch. This causes the northeast basinward dip to be less in this part of the state than it is farther to the north. The main folding in the region consists of northeast plunging noses and the northwest-southeast axes characteristic of central Michigan are subsidiary.

However, it is the presence of the northwest-southeast axes in Allegan County that creates the small sharp closure where prolific shallow Traverse oil pools are found. Two northwest-southeast lines of pools have been established in northern Allegan County, and drilling indicates that at least two more are likely in southern Allegan and northern Van Buren counties. These trends are also very apt to project over into the other counties adjoining Allegan on the north and east. The northernmost trend already includes the Dorr and Salem fields and the next one south includes the Monterey, Diamond Springs, and Overisel pools. In southern Allegan County there is the small Trowbridge pool, and over the line into Van Buren County is the new Bloomingdale discovery.

Anticlinal Folds

Exploration and drilling in known fields have not only shown that the Michigan basin can be divided into several structural provinces, but they have also raised the question as to whether anticlinal folds persist with depth and whether prospecting for commercial oil in beds beneath the Dundee-upper Monroe will be fruitful. For the most part well developed closures on the Dundee horizon have carried pools of oil, but recent discoveries on the Kawkawlin-Wisner structure south of Saginaw Bay have been disappointing because the Dundee beds lacked porosity. One well deepened on the Wisner anticline to over 800 feet below the top of the Dundee has made a small producer and focused attention on the deep prospects of this structure.

In the deeper part of the basin near Sanford, Midland County, Sun Oil Co. is still working on a test at over 5,000 feet which carried oil in the lower part of the Detroit River (lower Monroe) and also just above the Sylvania sandstone. Showings near the Sylvania horizon were also encountered on the West Branch structure and near Walhalla in southeastern Mason County. These occurrences of oil which can be reached within 5,000-5,500 feet in central Michigan will be the next prospect in new development.

However, it has been demonstrated in drilling Trenton tests at Howell and Muskegon, and also the deep tests at West Branch that the amount of structure in the Devonian rocks does not persist into the Silurian and the Ordovician. Unconformity and pre-Devonian folding have apparently shifted the axes at depth. This factor must be considered in drilling projected beneath the Dundee, and recent work by several seismograph concerns seems to indicate they can aid in working out structures on the deeper beds.

Gasoline Discounts Are Upheld By Pennsylvania Court

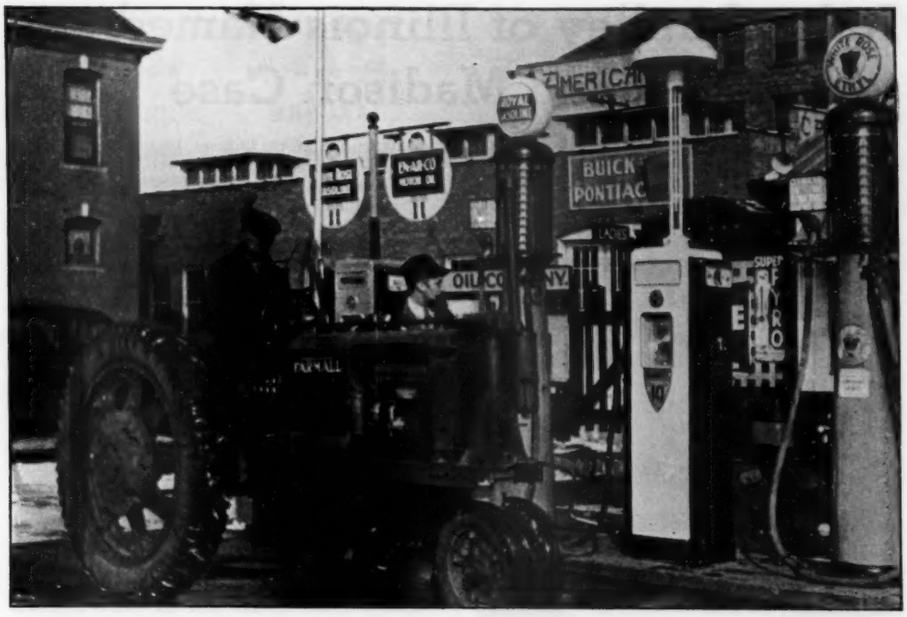
HARRISBURG, Pa.—Provisions of the Pennsylvania gasoline dealers' licensing act of 1937 which prohibited the retail sale of gasoline at prices lower than posted by the dealer were invalidated by the Dauphin County Court when Judge Karl E. Richards declared "those sections of the act which prevent the giving of discounts to purchasers of liquid fuels are unconstitutional and void."

The court decision does not affect the basic purpose of the law, which levied a $1 license fee on each pump in the state for the purpose of financing the state's legislative probe of its oil business.

The suit testing price regulation was brought by William B. Brown, gasoline dealer of Amity Hall and Dauphin, Pa., Sperry & Hutchinson Co. of Pittsburg, a stamp-trading concern which attacked a provision preventing dealers from giving stamps to purchasers to be redeemed for merchandise, and by a number of other individual dealers, after Brown's license was revoked when he sold gasoline at a discount to truckers.

ZEAL FADES FOR ALCOHOL MOTOR FUELS

By W. T. Ziegenhain



Tractors constitute a large share of the potential market for Agrol fuels

Sales of alcohol-gasoline blends in the United States have totaled a much smaller figure than advocates of the use of these fuels anticipated one year ago. It is not difficult to approximate these sales because the production of the base material, "Agrol fluid," is concentrated in one plant at Atchison, Kans. No similar plants are under construction. The Atchison plant started producing ethyl alcohol from farm products in October, 1936, and it has operated intermittently since. Although designed to produce 10,000 gallons of fluid daily it has been called upon to produce only a small proportion of this. Its actual output when running is reported as more nearly within the range of 1,000 to 5,000 gallons daily. The average for the life of that plant to date is apparently much less, since the plant has been idle from time to time while additional equipment was being installed. And while much of this off-time has been explained as due to making additions to lower the cost of manufacture, the price of the fluid at Atchison has remained at 25 cents a gallon plus tax.

This material is blended with gasoline costing less than 6 cents at the refinery and the blend retails at a cent or two above the market for regular grade refinery gasoline. The exact price of the blend is influenced primarily by local marketing conditions and by the percentage of Agrol fluid in the blend.

Standardize on Three Grades

The proponents of alcohol blends have tried to get marketers to standardize upon three grades, namely blends containing roughly 5, 10 and 15 per cent Agrol fluid. They have been able to accomplish this but they have not been equally successful in getting marketers to use a uniform base gasoline. As a result, the blends have not been uniform in quality. Alcohol blends have suffered as a result.

This fact has probably been the principal cause which led Agrol proponents to investigate many types of base gasolines and to check the responsiveness of each type to the addition of Agrol fluid.

It has become evident that if a low-grade base gasoline is chosen, the simple addition of 5, 10 or 15 per cent ethyl alcohol does not produce as satisfactory fuel as when the same quantity of fluid is added to a high-grade base gasoline. Also, since Agrol fluid has limited capacity to raise the antiknock value of any commercial gasoline, it has been found economical to include tetraethyl lead in the blend. Agrol fluid, plus a small quantity of lead, appears to bring the quality of low-octane gasolines more nearly up to the antiknock value of regular and premium price refinery gasolines than stronger concentrations of Agrol costing the same money.

May Standardize Base Gasoline

In view of this development, any program to standardize the quality of base gasoline for blending which may be required of licensees of Agrol in the future may be expected to recognize the advantage of the presence of ethyl lead in the blend. When and if this is done, alcohol will appear to have given up some of its prestige as a "builder upper" of antiknock value.

This will mean that ethyl alcohol simply becomes another gasoline additive. To justify its economic use as such it must be potent enough and cheap enough to compete not only with lead but it must compete with petroleum motor fuels made by highly specialized physico-chemical manufacturing procedures, including polymerization, hydrogenation, and severe reforming. From these latter processes the refiner is able to make motor fuels that provide much higher antiknock values than the 5, 10 and 15 per cent alcohol blends and at about one-half the cost. And to top it off, if ethyl alcohol could be shown to give something to ordinary gasoline that cannot be provided more cheaply by lead, or by any one of these various processes, the oil refining business could start producing ethyl alcohol in quantities far in excess of any reasonable needs and at a lower cost than that made from farm products. In fact, large quantities of ethyl alcohol are now being manufactured from refinery gases but this is used for higher purposes than as automobile fuel.

Typical road sign

Despite arguments that have developed which question the technical value of alcohol as a motor fuel constituent, the proponents of the idea have countered by showing that such blends have been used in foreign countries for years. They are willing to have the motorist try a tankful of the material as blended by Agrol jobbers. They hope the trial will settle the technical questions in the skeptic's mind.

They had hoped to fortify their views with more favorable results from the recent Indianapolis 500-mile automobile race in which 5 of the 33 cars entering the race were reported using some alcohol with gasoline as fuel. The others used only gasoline. However, the longest any alcohol-driven car remained in the race was 166 miles.

Sioux City Case

Another means for publicizing the use of alcohol fuels proved a disappointment when Sioux City, Iowa, recently failed to raise sufficient money to finance the erection of a plant there. Large quantities of Agrol fuels were supplied certain marketers in the city and a program of winning the farmers' support was started.

The farmers were told of the seeming advantages of selling their products to people who were to convert them into alcohol and then buying back the residue as cattle food. The farmer was glad to sell his products and he seemed to be satisfied with the sample of alcohol motor fuel in his car as he left on his way home, but he did not come back often enough to pay the premium for the alcohol blend to make the investment in a $500,000 alcohol plant appear advisable to the local civic boosters.

Marketing

In a similar manner efforts are being made to generate interest in building plants in several other locations. The marketing of Agrol fluid has spread through Kansas, in Missouri, Iowa, Nebraska, North Texas, Arkansas, Oklahoma, the Dakotas and Minnesota.

The Atchison Agrol Co., organized in December, 1937, as a manufacturer and marketer of Agrol fluid, is actively pushing the sales of its product in these states and is ready to make definite sales agreements with oil jobbers for the purpose of increasing its sales. The Chemical Foundation was a principal stockholder in the company at the time of the latter's organization and it is encouraging the expansion of markets for alcohol fuels and the erection of conversion plants throughout the farm belt. To date, however, progress has been slow.

Judge Lindley of Illinois Named to Hear Second Madison Case

MADISON, Wis.—Because of the "press of other business" in the Madison federal court, Judge Patrick T. Stone will not preside at the second trial of three major oil companies and 15 executives on antitrust conspiracy charges, it was announced here last week.

JUDGE W. C. LINDLEY

Judge Walter C. Lindley of Danville, Ill., on assignment from Evan A. Evans, presiding judge of the seventh appeals circuit, has consented to sit in the case, Judge Stone said.

"We have about four months of jury work ahead on us, most of which arise out of condemnation cases involving lands along the Mississippi River," he explained. "These cases have been pending for some time and it is imperative that they be disposed of as soon as possible."

New trials granted by Judge Stone to the 15 individuals and three companies after they had been found guilty by a jury here last January of conspiring to raise and fix gasoline tankcar prices had been set tentatively on the calendar for September 26, but the case has been adjourned to October 14, Judge Stone announced. Judge Lindley will meet in Madison with attorneys for the state and Government on that date to arrange a definite day for opening of the trial.

Walter C. Lindley was born at Neoga, Ill., July 12, 1880. He received his A.B. degree at the University of Illinois in 1901, LL.B. degree in 1904 and J.D. in 1910. He married Louise Dewey Brown of North Egremont, Mass., August 30, 1913.

He practiced law at Danville, Ill., as member of the firm of Lindley, Penwell & Lindley, from 1904 to 1922; was master in chancery, United States Court, 1912-18; member of the Board of County Commissioners, Vermilion, Ill., 1916-20; member of the Danville Board of Education.

He became judge of the U. S. District Court, Eastern Division of Illinois, by appointment of President Harding, September 29, 1922, and for the past two years has been assigned to sit in the U. S. Circuit Court of Appeals in Chicago to fill a vacancy in that court. He has sat frequently in New York, Chicago, Detroit, San Francisco and Los Angeles, and has recently returned from a three months' session in San Francisco.

Judge Lindley is a member of the American and Illinois State Bar Associations; Phi Beta Kappa, Order of the Coif. He is a Republican, a Presbyterian, Thirty-second Degree Mason, Elk, former president of the College Club and Danville Country Club, and member of the Union League and the Hamilton Club of Chicago. He resides at Danville.

Sale of Confiscated Oil May Be Further Delayed

AUSTIN, Tex.—There is no early prospect for the public sale of 219,250 bbls. of East Texas oil confiscated by the state September 9 in a suit against General American Oil Co. The company by a counter suit secured an injunction that prevents the Railroad Commission from interfering with free movement of 90,250 bbls. which had been included in the original suits for confiscation.

Andrew Pruitt testified that the 90,250 bbls. was produced legally under his supervision by Gilliland Oil Co. The other oil, he said had been purchased, and its production record was not available. Tenders had been refused by the Railroad Commission for movement of the 90,250 bbls.

F. W. Fisher, Tyler attorney, testified the tenders were not refused because of any claim that the oil was unlawfully produced but because the Gilliland refinery was not then furnishing reports to the commission. He said he advised the refinery the commission had then no jurisdiction over a refinery and a federal court suit decided he was right. Since then the commission has been given jurisdiction over refineries by statute.

Notice of appeal was given by attorneys for Premier Oil Refining Co. of Longview, which had first been permitted to intervene in the case and then was stricken from it on motion of both the attorney general and General American Oil Co. The appeal can be filed during the court term which has two months to run.

Maj. J. R. Parten, stockholder in the Premier company, who attended the hearing, said his company would not bid for the confiscated oil. He said they had sought to intervene to make sure that all parties who might claim the oil were cited in the case so that clear title to the oil could be conferred at competitive bidding. He predicted there would be only one bidder when the oil is sold.

State District Judge Roy Archer in ordering confiscation of part of the oil instructed that "widest publicity" be given its sale and that the state offer every protection to any buyer who might bid upon it.

Interstate Compact Commission Will Act on Renewal

The next meeting of the Interstate Oil Compact Commission will be held in the Mayo Hotel, Tulsa, at 10 o'clock Thursday, September 29. At 10 o'clock Wednesday, September 28, the committee, appointed under the resolution by Judge E. R. Sloan of the Kansas Corporation Commission at the Colorado Springs meeting, will meet at the Mayo Hotel to prepare its report covering the renewal of the compact which expires next year.

Rate On Single Completion Bonds Is Reduced

The Oil Producers Agency of California has been advised that the rate on single completion bonds has been reduced 50 per cent, effective immediately, thus bringing the cost of these bonds down to $25 per well, as compared with their former cost of $50, and their more recent cost of $40 per bond.

This latest reduction marks the success of an agency drive for a lower premium for these state bonds, a drive which was undertaken after research indicated that the bonding companies' losses on this type of bond were well below 2 per cent.

Missouri Minerals Conference At Rolla, October 21-22

ROLLA, Mo.—A Missouri Minerals Industry Conference, sponsored by the Missouri School of Mines and Metallurgy and the Missouri Geological Survey, is to be held at the school of mines on October 21 and 22. The object of the conference, according to Dr. William R. Chedsey, director of the school of mines, is for the mutual benefit of the producers of mineral products and the service institutions supported by the states.

Dr. H. A. Buehler of the Missouri Geological Survey; S. M. Shelton, supervising engineer of the Mississippi Valley Experiment Station of the U. S. Bureau of Mines, and Doctor Chedsey of the school of mines will speak.

Annual

Pipe Line Number

YOU WILL BE INTERESTED in the Journal's 1938 Pipe Line Number, September 22, starting with the opening article by Walter M. W. Splawn, chairman of the Interstate Commerce Commission. Chairman Splawn, former University of Texas professor and noted authority on transportation, discusses in an exclusive paper the increasing importance of pipe lines.

Among the other features you will find: Individual maps of gasoline pipe line systems and a composite map showing all the gasoline lines in the United States.

Many pages of practical suggestions, "Kinks" gathered from all parts of the country.

Engineering articles dealing with construction, operation and maintenance prepared by pipe line operators.

Complete personnel of natural gas, crude oil and gasoline pipe line companies.

German Pipe Representatives Call on Carl Young

DALLAS, Tex., Sept. 12.—Dr. Gerhard Wagner, New York representative of the Mannesmann Tube Co. of Dusseldorf, Germany, accompanied by A. Chiesura of Dusseldorf, and J. Keuleist of another pipe concern, called on Carl A. Young at the A.P.I. offices here to inquire about A.P.I. specifications on pipe. Mr. Young said the discussion had nothing to do with buying crude oil, as reported.

Hearings on Regulations for Trucks Carrying Oil

WASHINGTON, D. C., Sept. 12.—The Interstate Commerce Commission has just published its third draft of proposed regulations for the transportation of dangerous articles by motor truck and set dates for hearings on final protests and suggestions. The draft includes instructions for the design, construction and handling of tanks and containers for shipment of petroleum products.

Hearings will be held October 10 in the Railroad Commission quarters, Los Angeles, Cal.; October 17 in the Mayo Hotel, Tulsa.; and October 26 at the I.C.C. Building, Washington.

the OIL AND GAS JOURNAL

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Showdown, Not Sitdown

Regardless of the antitrust acts and the Madison trials the oil industry will shortly have to give consideration to the practical problems that have developed in connection with conservation and proration regulations in the operation of its business.

It will not do to sit back and take the position that nothing can be done due to the attitude of the government as shown in the Madison prosecution. So far as that particular case is concerned, as it now stands it was more a victory for the oil companies than for those who attempted to carry out a legal position which is untenable in any long range view of the relations of the industry and the government.

It certainly is no excuse for listless inaction which may permit developments which will result in serious trouble later if nothing is done to correct them.

The administration at Washington has repeatedly indicated its interest in the conservation of petroleum, and only recently the Secretary of the Interior, in a message read at Colorado Springs, called upon the industry and the oil states "to take action to establish a permanent oil conservation policy based upon mutual respect for our separate and joint responsibilities and having the prime purpose of assuring an adequate supply of oil at reasonable prices."

Any such program of conservation requires the free cooperation of every unit in the industry from the five-barrel a day producer to the billion dollar integrated unit. Since the conservation of our petroleum resources has been a paramount policy with every national administration for the past fifteen years it must far outweigh the desire of any department to stage a demonstration of enforcing antitrust legislation that is admittedly ineffective and out of date.

The situation, so far as the oil industry is concerned, calls for a showdown, not a sitdown. If necessary the administration should be called upon for a definite statement of policy in regard to what the industry should do to remedy any possible weakness in the conservation program which necessarily involves cooperation of all the oil-producing states and all the operators concerned.

Failure of the state and operators to realize this necessity for united action must ultimately lead to an extension of federal regulation and control.

Constructive action might start with revision of the interstate compact which must be presented to the oil-producing states and the federal government next year.

The obvious weakness, however, is not so much in the provisions of the compact as in the failure of the commission to act as a clearing house in the solution of the problems which properly have been brought to its attention.

Everyone knows there are inequities between states in enforcement of conservation regulations and, with proper study, the commission, with the full support of the industry, can bring about the needed changes.

The same situation exists in regard to allocations among pools in a state and actual production within the pools.

The solution involves well-spacing, the taking of potentials and other technical problems, the importance of which has been emphasized in the enforcement of proration regulations.

The assumption that these matters can be allowed to drag along without serious consequences is inconceivable. It is certain that these problems, if not solved, will be brought to the attention of the federal courts. The situation must not be allowed to get so far out of hand as to offer any excuse for federal intervention.

Programs and Meetings

Tentative Program for S.A.E. Meetings in Tulsa

A tentative program for the regional meeting of the Society of Automotive Engineers at Tulsa, October 6 and 7, has been announced by B. E. Sibley, chief technologist, Continental Oil Co., and vice president of the S.A.E. and chairman of the committee on fuels and lubricants.

OCTOBER 6—

Morning: Chairman, A. V. Bourque, executive secretary, Western Petroleum Refiners Association.

L. L. Fawcett, Auto Electric Co., Ponca City, Okla., "Motor Tuneup and Service."

T. B. Rendell and F. I. Garton, Shell Petroleum Corp., St. Louis, "Four-Ball Testing Apparatus."

Afternoon: Chairman, Ralph Matthews, Battenfeld Grease & Oil Corp., Kansas City.

Southwest Bell Telephone Co. representative: "Motor Transportation."

Robert Collins, 'Operation and Maintenance Problems Relative to Fuels and Oils."

Evening: Chairman, W. F. Lowe, secretary, Natural Gasoline Association of America.

Dinner, 7:00 p.m., Mayo Hotel.

Discussion of S.A.E. activities.

G. L. Wheatley, Petroleum Motor Transport Association, "Oil Industry Automotive Maintenance Problems."

OCTOBER 7—

Morning: Chairman, T. J. Scheutz.

J. D. Gordon, Dart Truck Co., "Developing Trucks and Trailers to Portable Drilling Work."

H. W. Ladd, "Multi-Cylinder Engine Adaptations in the Oil Industry."

Afternoon: Chairman, Earl W. Pughe, Chevrolet Motor Corp.

W.P.R.A. representative: "Characteristics Relative to Ring-sticking and Engine Cleanliness of Mid-Continent Lubricating Oils."

F. M. Young and W. R. Ramsaur, Young Radiator Corp., "Methods of Oil Temperature and Control."

Evening: Chairman, Frank A. Suess, Continental Oil Co.

Dinner, 7:00 p.m., Mayo Hotel.

Debate: "Resolved, That Rear Engine Mounting Is More Desirable Than Forward Engine Mounting for Passenger Cars." Affirmative: Students from Department of Mechanical Engineering, Kansas State College: negative: Students from College of Engineering, University of Oklahoma.

Gas Division of Oklahoma Utilities Association

The meeting of the Gas Division of the Oklahoma Utilities Association September 26, at the Biltmore Hotel, Oklahoma City, will be called to order by W. L. Woodward, president of the Zenith Gas System, Inc., Alva, chairman. The program follows:

10:15 "Net Consumption of Replacement Appliances," Lyman H. Bell, Central States Power and Light Corp., Tulsa.

11:00 "Gas Leakage and Most Effective Way of Finding and Stopping Leaks," Harry W. Pitzer, Southwestern Light & Power Co., Chickasha.

11:45 "Gas Packaged," W. Jennings Young, Northern Oklahoma Gas Co., Ponca City.

12:15 Luncheon, J. Y. Wheeler presiding, Oklahoma manager, Community Natural Gas Co., and president of the Oklahoma Utilities Association.

2:00 "Responsibility—What Is It?" Oakah L. Jones, Oklahoma Natural Gas Co., Tulsa.

2:45 "Keen Edge Tools," E. H. Poe, American Gas Association, Dallas, Tex.

3:00 "Promoting Merchandise Sales Through Dealer Cooperation," Carter Mullaly, Hales-Mullaly Co., Oklahoma City.

American Welding Society Annual Meeting Program

The nineteenth annual meeting and welding exposition of the American Welding Society will be held at the Book-Cadillac Hotel, Detroit, Mich., October 16-21.

The first technical session dealing with welding in construction work will be opened Monday, October 17, following presentation of medals. In the afternoon simultaneous technical sessions will be held on production welding small machine parts and on industrial research.

Tuesday morning a joint session with the American Society of Mechanical Engineers will be held and a session on fundamental research. In the afternoon there will be a session on welding and cutting processes and a continuation of the fundamental research session.

Wednesday morning sessions on welding in machine design and on fundamental and industrial research will be held. Thursday morning and afternoon there will be the automotive sessions. Friday morning ship and railroad sessions will be held and the business session and election of officers.

Oklahoma Scouts Association Meets at Oklahoma City

The annual meeting of the Oklahoma Oil Scouts Association will be held Friday night, September 16, at the Biltmore Hotel in Oklahoma City. The annual dinner will be followed by a business session and election of officers. Homer Lynn, seismograph scout for Magnolia Petroleum Co. at Oklahoma City, is acting president of the association and will preside. Maurice Miesse, Seminole district scout for Phillips Petroleum Co., was president until his recent transfer to Owensboro, Ky.

Shreveport Geological Society To Elect New Officers

The Shreveport Geological Society will meet October 7, at 7:30 o'clock in the civil courts room of the Caddo Parish Courthouse, Shreveport, La. This session will open the society's fall program of activities.

The meeting will be featured by the election of new officers. Present officers are B. W. Blanpied, president; E. B. Hutson, vice president, and J. D. Aimer, secretary-treasurer.

Arnold's Assistant to Speak On Antitrust Legislation

Wendell Berge, chief assistant to Thurman Arnold, head of the antitrust division of the Department of Justice, and Mr. Arnold's alternate on the Monopoly Investigating Committee, will be a speaker at the annual convention of the National Oil Marketers Association in Morrison Hotel, Chicago, Ill., October 24 and 25. He will discuss antitrust laws.

CALENDAR

September

NATIONAL PETROLEUM ASSOCIATION, Atlantic City, N. J., Hotel Traymore, Sept. 14-16.

PACIFIC COAST GAS ASSOCIATION, Santa Barbara, Calif., Biltmore Hotel, Sept. 14-16.

NATIONAL INDUSTRIAL ADVERTISING ASSOCIATION, Cleveland, Ohio, Sept. 21-23.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, midyear meeting, under direction of West Texas Geological Society, El Paso, Tex., Sept. 27-Oct. 2.

INTERSTATE OIL COMPACT COMMISSION, quarterly meeting, Tulsa, Sept. 29.

October

NATIONAL LUBRICATING GREASE INSTITUTE, Chicago, Oct. 3-4.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, San Antonio, Tex., Oct. 5-7.

SOCIETY OF AUTOMOTIVE ENGINEERS, National Regional Fuels and Lubricants meeting, Tulsa, Oct. 6-7.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Minerals Division, Knoxville, Tenn., Oct. 6-8.

NATIONAL BITUMINOUS CONFERENCE, sponsored by W.P.R.A. and Montana and Mississippi Highway Departments, Biloxi, Miss., Edgewater Beach Hotel, Oct. 10-13.

AMERICAN GAS ASSOCIATION, Atlantic City, N. J., Oct. 10-14.

NORTH AMERICAN GASOLINE TAX CONFERENCE, Tulsa, Oct. 10-14.

NATIONAL SAFETY CONGRESS, Chicago, Stevens Hotel, Oct. 10-14.

SOCIETY OF AUTOMOTIVE ENGINEERS, Aircraft Production meeting, Los Angeles, Ambassador Hotel, Oct. 13-15.

NATIONAL STRIPPER WELL ASSOCIATION, Tulsa, Oct. 18.

INDEPENDENT PETROLEUM ASSOCIATION, Tulsa, Oct. 19-21.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Minerals and Petroleum Divisions, Los Angeles, Oct. 20-21.

NATIONAL ASSOCIATION OF CREDIT MEN, Petroleum Refiners Division, Indianapolis, Ind., Oct. 24-26.

NATIONAL PETROLEUM ASSOCIATION, Department of Fire and Accident Prevention, Olean, N. Y., Oct. 26.

MID-CONTINENT OIL AND GAS ASSOCIATION, Texas Division, San Antonio, Oct. 27-29.

November

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, regional meeting, Tucson, Ariz., Nov. 1-5.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, Pacific Section, Los Angeles, Nov. 3-4.

AMERICAN PETROLEUM INSTITUTE, annual meeting, Chicago, Stevens Hotel, Nov. 14-18.

December

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, New York, Dec. 5-9.

March, 1939

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, annual meeting, Oklahoma City, Okla., March 22-24.

Report on British Labor Blow to Wagner Act

By HENRY D. RALPH

WASHINGTON, Sept. 12.—Amendment of the Wagner Labor Relations Act probably will be sought in the next Congress, but the chances for any substantial amendments have been greatly lessened by the report on industrial relations in Great Britain just made to President Roosevelt by a commission appointed by him to study conditions at first hand.

While the report makes no references whatever to labor conditions in the United States, it contains inferences which can be used to oppose almost any new legislation which may be pressed. The chief finding of the commission is that in spite of a century of labor legislation in Great Britain, the machinery for settlement of labor disputes there rests much more upon tradition and practical experience than on laws and government compulsion. For example, the British laws do not require collective bargaining, which is the keystone of the Wagner Act, although collective bargaining is used almost universally throughout British industry, and most employers and employes in England are opposed to many of the legislative proposals which have been made in this country during the past few years.

Next to the fact that collective bargaining has been firmly entrenched in Great Britain for many years, the most interesting observation of the commission is that most labor agreements there are not between a single employer and his workers or even between a single employer and a national union, but are agreements negotiated collectively by representatives of a group or association of employers and representatives of an association of unions. Most employers are organized in trade associations and these associations negotiate with labor unions on an industry-wide basis. However, there are regional and local collective bargaining agreements, usually dealing with details not covered by the national agreements. Employers not engaged in the nationwide bargaining negotiations make their own agreements with the unions or with their own employes, but in most cases these agreements closely follow the national ones. Even in the case of industry-wide agreement, wages and working conditions are not absolutely uniform, and the commission found a wide variety of practices and provisions.

Wage Negotiations

Despite the intricate and diverse nature of the collective bargaining processes in Great Britain, the commission found the arrangements which have been embodied in agreements and rules for settling basic terms of employment, disputes and grievances, have certain common characteristics. Basic changes in wages and hours are commonly negotiated by the national unions with associations of employers. If such negotiations fail, resort is generally had to some impartial agency whose decision is usually followed although the parties rarely bind themselves in advance to follow it. In the case of a local dispute over gievances or interpretation of an agreement, a local union attempts to reach a settlement and, failing to reach that, the controversy is referred to a committee of employer and employe representatives in the industry but who are not themselves directly concerned with the controversy.

In spite of all this machinery, local strikes sometimes occur in England without the sanction of the union officials, but in every case the national officials of the union are energetic in procuring a resumption of work. The general principle that there shall be no negotiations while the workers are out on unauthorized strikes is insisted upon and generally maintained. The agreements provide there shall be no strikes or lockouts until the procedure for settling disputes has been completed.

The commission found no desire on the part of either employers or unions for legislation which would make agreements legally enforceable. It was recognized that in some industries where collective bargaining had broken down and there was a serious impairment of wage standards some government action is necessary to impose minimum wages, but the general feeling is that government intervention should be as a supplement for collective bargaining and not a substitute for it. The commission also found general opposition to the idea of compulsory arbitration of industrial disputes.

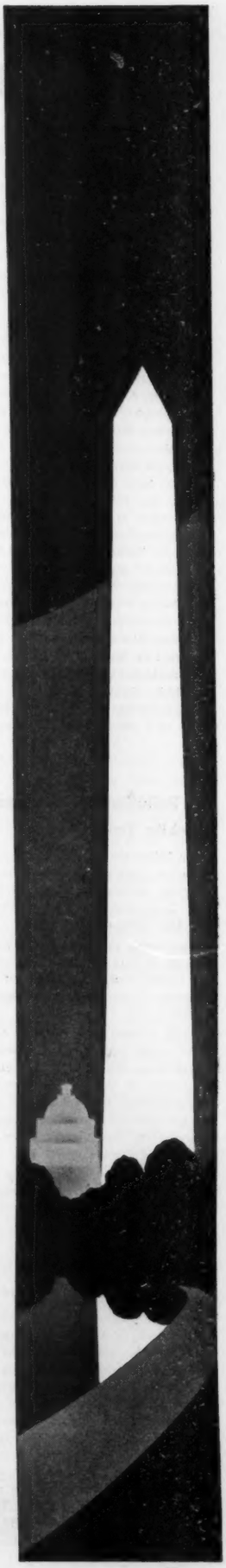
England also has both craft and industrial unions, the commission found, but machinery has been evolved for minimizing disputes between unions. Jurisdictional disputes as to which craft shall be given a certain job are settled by a standing committee of the Trades Union Congress which has power to suspend a union which refuses to abide by its decision. The various unions in England have agreed that no one of them has an exclusive right to organize any class of workers, and no union is allowed to take in a member who is in arrears in dues to another union nor from any union which is engaged in a trade dispute. It is reported this settlement machinery works well and stoppages of work do not result from organizational disputes.

British laws do not make unions legally responsible for the enforcement of collective bargaining agreements, and unions are generally immune from suit except for acts done in the course of illegal strikes or in the furtherance of a trade dispute designed or calculated to coerce the government or to inflict hardship upon the community. Peaceful picketing is permitted but unions are prohibited by law from inflicting damage to property or bodily harm or from intimidating workers or members of their families.

Violence Rare

When strikes occur in Great Britain they are seldom accompanied by violence or provocation, the report points out, and in a case of strikes involving at the outset enough workers to make a continued operation of a plant impractical, employers almost invariably shut down their plant and do not attempt to operate until the controversy has been settled by negotiations. There is a general feeling among workers and employers that the job belongs to the man and it is not right for men to take, or to be asked to take, the jobs of their fellows. Discrimination against strikers and their leaders is thus reduced to insignificance. In the case of strikes involving only a porton of a plant, the plant may be operated with the men who remain at work, but they are not usually asked by the employers to do the work of the men on strike.

The commission declared that employers frequently stated they prefer strong unions to weak ones because the strong union is better able to secure the fulfillment of agreements and is better able to bring competitors up to the wage and hour standards of the industry as set by the agreement. At the same time, labor representatives stated they preferred strong employer organizations to weak ones because the stronger the organization the fewer the units which remain outside to undermine industry standards. British commissions have reported that peaceable relations are the result of strong and firmly established trade unionism, and that trade unionism in a weak and struggling condition rather tends to increase the number and bitterness of industrial conflicts. Another interesting observation of the commission is that closed shop agreements are exceptional and are seldom asked by the unions in England although in many industries there is virtually a closed shop in practice since employers prefer to engage union men and often urge their employes to join unions. The check-off of union dues by employers is also very exceptional, and several union representatives stated their opposition to it.



Fayette Leads in Completions in Later Report on Illinois

MATTOON, Ill., Sept. 13.—A supplementary report on completed wells in Fayette, Franklin, Jefferson, Wayne, and Clay counties, with the sand records and initial 24-hour production, shows the following results:

In Fayette County, L. & G. Coal Co. No. 1 Dial, SW NW NW Section 6-7n-3e, Weiler sand at 1,548-65 feet, shot with 20 quarts, pumped 100 bbls. in 12 hours; Isotex Corp. No. 2 Owens, NW NW SW Section 9-7n-3e, Weiler sand at 1,461-1,508 feet, shot with 80 quarts, 192 bbls.; Cummings and others No. 2 Burtschi, NW NE SE Section 18-7n-3e, Benoist sand at 1,593-1,605 feet, pumped 168 bbls. in 19 hours; Thayer and others No. 1 Morrison, NE NW NE Section 19-7n-3e, Weiler sand at 1,484-1,517 feet, flowed 500 bbls. in three days and then pumped 100 bbls. in 24 hours; Thayer and others No. 2 Morrison, NW NW NE Section 19-7n-3e, Cypress topped at 1,491 feet, total depth 1,531 feet, 84 bbls.; C. F. Binney and others No. 1 Buff, SE NW NW Section 31-7n-3e, dry and abandoned at 1,650 feet; Bell Oil & Gas Co. No. 1 Sloan, SE cor. SW Section 4-8n-3e, Weiler sand at 1,638-45 feet, total depth, dry and abandoned; Whisenant and others No. 1-A Lilly, SE cor. SW SE Section 16-8n-3e, stray sand at 1,549-57 feet, pumped 40 bbls. in eight hours; Jarvis Brothers No. 4 Sinclair, SE NW NE Section 29-8n-3e, Weiler sand at 1,371-97 feet and Benoist sand at 1,429-77 feet, pumped 336 bbls.; Yokey and others No. 1 Long, SE NE SW Section 31-8n-3e, Weiler sand at 1,541-55 feet, shot with 20 quarts, pumped 130 bbls.; Paul Doran No. 1 Goetting, SW cor. NE NW Section 32-8n-3e, Weiler at 1,494-1,525 feet, shot with 40 quarts, pumped 91 bbls.; Paul Doran No. 2 Goetting, SW NE NW Section 32-8n-3e, Benoist sand 1,565-88 feet, flowed 240 bbls. through tubing; W. B. Johnson Drilling Co. No. 3 Goetting, SW cor. NW NW Section 32-8n-3e, Weiler sand at 1,529-45 feet, 60 bbls.; Minerva Oil Co. No. 4 Tish, SE NW SE Section 33-8n-3e, Weiler at 1,471-1,525 feet, shot with 60 quarts, 175 bbls.; Max Pray No. 1 Buckmaster, NW SE NW Section 35-8n-3e, dry and abandoned at 1,637½ feet.

In Franklin County, Amerada Petroleum Co. No. 1 Ziegler Coal Co., SW NE NW Section 14-7s-1e, was dry and abandoned at 3,039 feet.

In Wayne County, Texas Co. No. 1 Craven, SE SW NW Section 33-2s-7e, pay at 3,309-12 feet, total depth, flowed 625 bbls. through ½-inch choke.

In Jefferson County, Carter Oil No. 2 Ray, NE SW SW Section 3-1s-2e, Bethel sand at 1,945 feet, total depth 1,963 feet, 240 bbls. of oil and 12 bbls. of water, gravity of the oil 40.9 degrees at 60° F.; Carter Oil Co. No. 3 Maud Foster, NE NE NE Section 9-1s-2e, Bethel sand at 1,941-50 feet, shot with 15 quarts, 247 bbls. of oil of 28.5 gravity at 68°; Carter Oil Co. No. 1 C. Dobbs, SE SE NW Section 10-1s-2e, completed at 1,085 feet as a salt water disposal well.

In Clay County, Pure Oil Co. No. 6 Tetrick A, C E half NE NW Section 9-2n-8e, McClosky pay at intervals from 2,969 to 3,007 feet, 547 bbls. net, after acidizing; Pure No. 2 C. E. Bates, C E half NW NE Section 16-2n-8e, McClosky lime at 2,997-3,025 feet, 881 bbls. net after acidizing; Pure No. 5 J. Earl Moseley B, C E half SW SW Section 16-2n-8e, pay at 3,005-30 feet, 213 bbls. net after a 1,000-gallon acid treatment; Pure No. 1 J. J. Smith, C W half NW SE Section 17-2n-8e, pay at 2,992 feet, total depth 3,063 feet, flowed 509 bbls. naturally. Pure No. 2 C. D. Duff A, C N half NE SE Section 32-3n-8e, pay topped at 3,000 feet, total depth 3,035 feet, flowed 982 bbls. naturally; Pure No. 4 B. Travis B, C W half NE NE Section 32-3n-8e, pay at 2,987-96 feet, flowed 287 bbls. naturally.

No Pollution or Wastage in Wichita Falls District

WICHITA FALLS, Tex.—Eighteen months have gone by since a case has come to trial in the courts of Wichita, Archer or Clay counties involving pollution and land wastage by careless oil field operations, officials disclosed last week.

Although one complaint was filed on a pollution charge, it was dismissed because it had been filed in the wrong county and was not refiled as the defendant involved immediately remedied the cause of the complaint.

The decided improvement, according to J. H. Dozier, state game warden; J. T. Bentley, inspector for the North Texas Oil and Gas Association; and C. H. Hodges, employed by the city of Wichita Falls to inspect the Lake Wichita watershed, has been brought about by close cooperation among oil operators, the North Texas Association, county commissioners and the State Game, Fish and Oyster Commission.

Not a single complaint has come in regarding field operations in the Lake Wichita watershed in seven months, it was reported.

Mattoon Entertains 700 Oil Men and Their Families

MATTOON, Ill., Sept. 10.—The oil roundup given here today by the Association of Commerce in honor of companies concerned in the Illinois oil development attracted approximately 700 oil officials and their families from this state and Texas, Oklahoma and Kansas. Given at the Mattoon Country Club the affair far exceeded an earlier expected attendance of 500. A similar roundup was held last year when 320 attended.

High lights of this year's roundup were a banquet in the evening held in a tent outside the country club building to accommodate the crowd and a dance following. At the banquet Carl D. Kiger, Mattoon attorney, served as toastmaster. He was assisted by Robert M. Payne, of the Carter Oil Co., who has been named honorary toastmaster.

Obituaries

JAMES THOMAS KEY, 70, former Shreveport, La., oil man, died suddenly at Cason, Tex.

M. E. LAKE, 35, vice president and petroleum engineer of the Coast Line Oil Corp. and Lincoln Petroleum Co., San Antonio, Tex., fell to his death from a third floor window of a Mattoon, Ill., hotel September 8. He was at one time active in the Oklahoma City field.

H. W. SCOTT, 61, of Odessa, Tex., pioneer West Texas oil man and tank executive, died in an Abilene hospital. He operated the Mapp & Scott Tank Co. since 1935 and was former superintendent for Simms Oil Co. in West Texas-New Mexico area. He had operated in Pennsylvania, Oklahoma, Arkansas, Louisiana and Texas.

Texas Ouster Suit to Be Resumed on October 3

HOUSTON, Tex.—Announcement that the state would be ready to proceed with the trial on October 3 of its suit against 17 oil companies was made late last week by Attorney General William McCraw.

The suit charges the defendant companies with violation of antitrust laws and seeking penalties aggregating $17,850,000, for injunction to prevent further infractions and to forfeit charters of domestic concerns and permits of the foreign corporations. The suit was originally brought by James V. Allred, when attorney general in 1931, and has dragged through the courts since. The preliminary issues are now ironed out and the case is set for trial on its merits.

Defendants are Standard Oil Co., Socony-Vacuum Corp., Standard Oil Co. of California, Shell Union Oil Corp., Humble Oil & Refining Co., Texas Co., Gulf Refining Co., Pasotex Petroleum Co., Continental Oil Co., Sinclair Refining Co., Magnolia Petroleum Co., Simms Oil Co., Shell Petroleum Corp., Cities Service Oil Co., Texas Pacific Coal & Oil Co., Texas Petroleum Marketers Association and American Petroleum Institute.

Shreveport to Ask Oklahoma City for Drilling Advice

SHREVEPORT, La.—The city council will make a detailed study of problems that arise with oil well drilling within city limits before passage of regulatory measures.

Suggestion was made by Commissioner Lane Mitchell that some of the council members go to Oklahoma City for a study of city drilling and regulations and that a study be made toward dividing the city into 10-acre drilling plots.

Pennsylvania Asked to Prevent Gasoline Tax Diversion

HARRISBURG, Pa.—The Pennsylvania Motor Federation has begun a new campaign to prevent diversion of the gasoline tax and motor funds from road building and maintenance work in this state.

President Edward S. Gable, of the federation, says the campaign will center on a constitutional amendment just introduced in the legislature which must be approved by two sessions of the legislature and a popular vote.

The amendment would provide that all "motor vehicle registration fees, operators' license fees, gasoline excise taxes and other similar special taxes, fees, duties and excises" on motor vehicles, owners and operators can be appropriated only to pay for the laying out, constructing, reconstructing, maintaining, repairing, improving and policing the public highways and bridges, and to defray the cost of administration and the interest and principal of any state or local debt incurred for highway and bridge purposes.

Mississippi Test to Drill To 20,000 Feet, Maybe

JACKSON, MISS.—Drilling was to be resumed within a week at the Southern Natural Gas Co. location near Edwards.

Drilling operations were suspended at a depth of 6,600 feet. It was said a new and heavier rig capable of penetrating the lower rock formations would be brought to the location and that the test might be sunk to 20,000 feet.

Port Authorities Convention Into Tidelands Fight

Oil bearing tidelands along the coastline of the Pacific Ocean and the Gulf of Mexico will take the spotlight at the American Association of Port Authorities convention at Halifax, Nova Scotia, this month, as delegates from California, Texas, and Louisiana will seek to gain support of the association to fight any revival in Congress next January of the Nye resolution.

Irwin M. Stevens, president of the Long Beach, Calif., Harbor Board, and a national director of the American Association of Port Authorities, will lead the campaign at the convention against the proposed reintroduction of the Nye resolution. He says:

"Although the fight has become concentrated somewhat upon California, any attempt of the federal Government to seize oil-bearing tidelands here will strike a disastrous blow at every coastal state in the union. In Texas, the state school department functions largely upon revenues derived from its oil-bearing tidelands; in Louisiana, the state is vitally concerned in its oil properties, and in all other states the seizure would likewise affect the ownership of all shoreline property because of clouds thrown upon property rights. Reintroduction of the Nye resolution would not only throttle all future development of harbors at every port in the United States, but definitely throws into jeopardy the millions of dollars now invested in harbor improvements."

STATE CAPITALS

PENNSYLVANIA

THE HOUSE OF REPRESENTATIVES at Harrisburg has approved a bill providing $20,000 for the commission assigned to investigate the Pennsylvania oil industry. The measure, passed 110 to 39 and sent to the senate, also validates the actions and expenses of the old commission which was stopped by court order because it was set up by joint resolution. The present group was established by a bill.

TEXAS

THE RAILROAD COMMISSION has granted permits to the Board of Mineral Development for the drilling of 16 wells in exception to the general K.M.A. spacing rules, in the Wichita River bed traversing the K.M.A. field in Wichita County. The wells are to be located 1,000 feet apart.

The wells will be drilled by the G. & W. Drilling Co. of Dallas, to which the board awarded a development contract on the 210-acre tract recovered in an agreed judgment ending litigation with the Venmex Oil Co. Members of the board calculated the contract would yield the state $2,075,000.

The company paid a bonus of $5,250 for the contract, which stipulates the state is to receive 25 per cent royalty until the company recovers $6,000 a well, after which the state will own the wells outright. When the wells require pumping, the state may have the company standardize them for $6,500 each, payable out of 75 per cent of production. If the company operates the wells, the state will pay 10 cents a barrel while flowing and 20 cents a barrel while pumping.

VALIDITY OF THE STRAIGHT POTENTIAL BASIS of allocating oil production in the East Texas field, issued by the Railroad Commission in April, 1933, was attacked last week in a suit filed by Rowan & Nichols Oil Co. of Fort Worth in federal court. No attack was made in the suit against the special order shutting in wells on Saturdays and Sundays, but was confined to the seeking of a temporary injunction and the convening of a three-judge federal court to hear the application for an interlocutory injunction upon final trial. Attorneys signing the petition were Dan Moody, Austin, and Rice M. Tilley and Phillip Tucker of Fort Worth.

The oil company cited in its petition that it was a staunch supporter of the theory and practice of proration, and was suing to invalidate the current commission order which it regarded as "inequitable, arbitrary and unreasonable because it can be equitable only if well spacing is uniform, and if well potentials are proportionate to recoverable oil in place in the drainage area of each well, and if potentials are taken on each individual well in the field instead of only a few key wells and fictitious potential contour lines drawn governing the potential ability of the other wells to produce." The concern's dispute with the commission over East Texas allowables, centering on its fight against a well on one-tenth an acre adjacent to its 25-acre lease in Gregg County was reviewed in the petition. Beginning last February the firm asked for relief, and refusal of the commission to grant such resulted in the filing of the suit.

WELLS WITH A HIGH GAS-OIL RATIO adjacent to the Hardin pool in Liberty County may be restricted to 50 bbls. per well per day, or 29 bbls. per day less than wells in the Hardin pool proper, under an agreement at a Texas Railroad Commission hearing. Strake Petroleum Co., owner of the wells, reported to the commission that to determine whether they are a part of the Hardin field or on another structure, and if they are oil wells or gas wells. The wells are three-quarters of a mile to a mile south of the Hardin field, where gas-oil ratios are much less than the 12,000 to 48,000 ratio on the Strake properties. information was insufficient for the commission

ARKANSAS

ARKANSAS BOARD OF CONSERVATION will meet at 10 a.m. on Thursday, September 22, in El Dorado to hear evidence for the purpose of determining the daily amount of crude oil and gas that may be produced in the fields of Buckner, Columbia and Lafayette counties; Magnolia and Village, Columbia County; South Miller (Rodessa), Miller County, and the Jones sand and Reynolds lime in the Schuler field in Union County.

CALIFORNIA

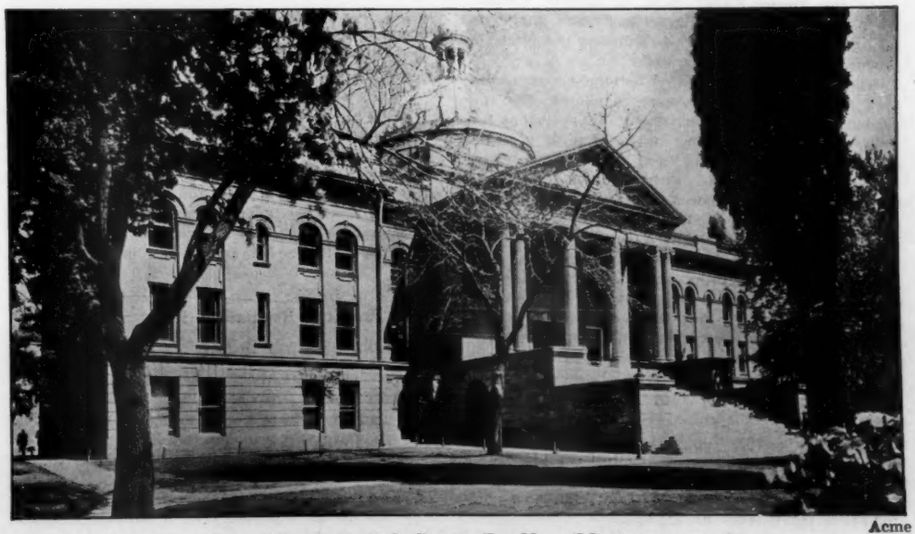
THE STRINGENT CURTAILMENT program in the Wilmington and Rosecrans fields a month or so ago whereby Wilmington operators set a maximum of 400 bbls. per well daily and Rosecrans operators agreed to cut inside wells down to 300 bbls. and outside wells down to 800 bbls. minimum, has greatly assisted the Central Committee of California Oil Producers, and Umpire J. R. Pemberton in their attempt to reduce state production to the lowest possible level commensurate with the demand. The state's quota for October will be set by the Central Committee within the next two weeks, and the amount to be cut off the allowable production will depend to some extent upon developments in the fuel oil market. Stability on the Pacific Coast during the coming winter depends upon the ability of the market to absorb at least the current production of refinery residuum. One of the most important problems confronting producers is where and how will the necessary additional curtailment be effected during the period of lower consumption. Due to the rapidity with which new wells are being completed, each month brings additional production into the picture and thus the older fields must absorb part of this new amount. Obviously a large part of the additional curtailment must be from Kettleman North dome, Wilmington, Rosecrans, West Montebello, Greeley, Ten Section, Rio Bravo and other flush or semiflush fields that are contributing to the present rate of production.

KANSAS

KANSAS CORPORATION COMMISSION will give a general hearing in Wichita on September 23 at 1:30 p.m. for the purpose of establishing allowable production for Kansas fields in October. Purchasers have been asked to inform the conservation division of their October requirements by September 20. The notice of the hearing is signed by E. G. Dahlgren, director of the conservation division.

CHANGES SUGGESTED by an advisory committee representing oil companies and individual operators, having to do with the state's conservation rules, were taken under advisement by the commission. Chairman E. R. Sloan said the proposals would be incorporated into the existing regulations within a short time. The changes suggested include a continuous eight-hour test to determine oil well potentials instead of two split four-hour gauges, and the establishment of a base allowable of 15 bbls. per day to prorated wells before allocations are made on a potential basis.

CANCELLATION OF OVERAGES was asked by Plainstock and associates in the Westhusin pool in Rooks County, and the commission took the application under advisement.



Acme

State capitol, Santa Fe, New Mexico

Vice President Veasey Retires; L. G. Owen Is Successor

James A. Veasey, general counsel of the Carter Oil Co. for 23 years, will retire November 1, reaching the retirement age of 62 on October 11.

Lloyd G. Owen, a member of the legal staff of the company for 22 years, and prior to that time associated with Mr. Veasey in general practice, will become general counsel.

Mr. Veasey plans to make his residence near Pocomoke City, Md., the ancestral home of the Veasey family. He intends to engage in the preparation of a complete textbook on the statutory conservation of oil and gas, covering the scientific developments which affect conservation, and their legal phases. Readers of The Oil and Gas Journal will recall the paper he presented recently before the Section on Mineral Law of the American Bar Association on "Compulsory Pooling of Adjacent Tracts Into Drilling Units to Conform to an Established Well Spacing Plan."

Mr. Veasey was born in Louisville, Ky., and spent his boyhood across the river in Jeffersonville, Ind. He attended the University of Michigan, receiving his A.B. degree in 1900 and his law degree in 1902. In 1922 the university conferred on him the honorary degree, doctor of laws. From 1919 to 1925 he lectured at the university on oil and gas laws. He expects to return to Ann Arbor every other year as he has agreed to conduct a biennial semester at the University of Michigan on laws of oil and gas.

When he has finished the text-book on conservation, Mr. Veasey plans to prepare a work on the general subject of oil and gas laws.

Superfluous Official Report Expensive to Companies

Magnolia Petroleum Co. has asked the Oklahoma Corporation Commission to eliminate one of the semi-annual reports required of oil and gas companies on locations of pipe lines, rights of way, real estate and other facilities.

G. L. Pate, secretary of Magnolia Pipe Line Co., said these reports now cost his company about $1,500 annually. Companies are required to file an annual report on the same matter to the Interstate Commerce Commission.

E. E. Hudson, engineer for the commission, testified that one report would be sufficient. The case was taken under advisement.

New Potential-Testing Methods In Western Canadian Fields

In the Turner Valley field, in Alberta, Canada, the Alberta Conservation Board has made public details of the new method of determining potentials or production rates for crude wells.

The new system is based on bottom-hole pressures, tests for which are now being completed. The full production rate will be arrived at by operating the well for 48 hours with flow restricted to 37 per cent of present potential. This flow will then be taken through a 2-inch nipple, with production measured hourly; and the third-hour flow multiplied by 24 will be taken as the daily production rate. In cases where the flow is regular over a long period, a full 24-hour test will be taken to determine production rate.

Where the gas-oil ratio exceeds 3,000 feet per barrel of oil the quota will be set at less than production rate; where 4,000 feet the quota will be three-quarters and where 6,000 feet it will be one-half the production rate. Where the ratio is less than 3,000 feet the full production rate will be allowed. Where wells drain a 20-acre lease the quota will be about 62½ per cent of that given wells on 40 acres under equal conditions.

With production rates determined by the foregoing factors, the board will from time to time determine the available crude market and allot allowable production percentages accordingly.

Effective August 27, proration on crude production from Turner Valley was raised from 51 to 56 per cent of potentials under a temporary emergency order, designed to meet the increased market demand due to the western harvest. The increase was temporary, pending the formal issue of the board's new regulations based upon its own production rate data. This increases the daily allowable production to approximately 28,500 bbls., including crude and naphtha delivered by pipe line to Calgary, about 1,200 bbls. taken by Oil & Gas Products, Ltd., in the field and about 2,000 bbls. delivered by tank trucks and tankcars to small refineries outside the field.

Pipe lines of the Royalite Oil Co. from Turner Valley to Calgary have handled a maximum of 26,990 bbls. daily, and could be boosted to around 28,000 bbls. if necessary.

Bids for Tidelands Opened Notwithstanding Suit

LOS ANGELES, Calif.—Bids for oil and gas slant-drilling privileges on 835 acres of sate-owned tidelands at Huntington Beach was submitted to the State Mines Commission by Southwest Exploration Co., West Central Oil Co., Ltd., and United States Refining Co., Ltd. Royalty to the state would vary from 12.50 to 66 per cent according to production.

The bids were opened shortly after service of a Superior Court action ordering the commission to show cause why it should not be enjoined from entering into proposed leases on request of Gordon Booth, who contends the commission's requirement that operators obtain written permission from parties controlling drill sites is unfair and unconstitutional.

Shea Predicts Reduction in Automobile Death Rate

In congratulating the winners in a drivers' safety crusade campaign in which prizes of $50,000 were distributed by Tide Water Associated Oil Co., E. L. Shea, executive vice president, predicted a drastic cut in the automobile death rate for 1938 on the basis of large reductions already scored this year. He said:

"For the first time in American motoring history, there will in all probability be a substantial reduction in the highway death toll that had reached the proportions of a national disgrace. Last year's frightful record of 40,000 lives needlessly wasted in preventable accidents will never be reached again. The tide was turned and the record for this year shows a decline of 22 per cent compared with last year. Upon latest advices, I feel certain that this trend will continue and that by the end of the year the toll will be brought down to less than 32,000, representing the saving of more than 8,000 lives.

British Admiralty Interested In Turner Valley Crude

CALGARY, Alberta.—As a result of the recent visit of Sir Edward Ellington, head of the British Royal Air Force, to the Turner Valley field, arrangements have been made to keep the British Admiralty regularly informed as to developments in the field, and in relation to marketing problems; as well as developments in Alberta wildcatting operations. The Admiralty is interested in the field as a potential source of aviation gasoline.

It has been determined that aviation gasoline with an octane rating of 100 can be produced from Turner Valley crude, due to its ready absorption of ethyl. At present 87-octane aviation gasoline is being used by the Royal Air Force.

Sales Reported in Crockett, Upton and Pecos Counties

FORT WORTH, Tex.—Sales, involving over $700,000 are reported of producing acreage in Upton, Crockett and Pecos counties. Sylva Oil Co., subsidiary of McAlester Fuel Co., bought from Choate & Hogan their 230-acre M. L. Baker lease in the McCamey pool of Upton County. The lease, in Section 7, Block R, M. S. Denton Survey, has six producing wells, with a total daily potential of 5,636 bbls. and current total daily allowable of 232 bbls. The wells are pumpers. Sylva paid $110,000 in cash, with an additional $190,000 out of one-eighth of the oil produced. It will drill 10 more wells.

Choate & Hogan also sold to Gilcrease Oil Co. of San Antonio 2,160 acres of University land and three wells in the Choate & Hogan pool of northwestern Crockett County.

Watkins Heads Carter Oil Co. Eastern Division at Mattoon

W. A. Watkins has been made superintendent of the eastern division of the Carter Oil Co. with headquarters at Mattoon, Ill. He succeeds Rex L. Dawson, who has been given a six months' leave of absence because of ill health.

THE MARKETS*

CRUDE OIL: *There continues to be local downward adjustments in crude oil price schedules, those effective the past week applying to the Jennings, La., area and scattered wells in Oklahoma. In the latter case the wells do not have pipe line connections and the crude purchaser is deducting from the regular posted schedules part of the tank-wagon transportation cost to the refinery. The substantial reduction in national output effective this month has ended excess production at several points, and the crude market generally is steady.*

REFINERY: *Gasoline tankcar prices were reduced at several points in the East and were not reported strong in any refining area. Natural gasoline continues weak in the Mid-Continent. Seasonal demand for distillates is reflected in tight market at several points. No changes in lubricants.*

TANK-WAGON AND POSTED DEALER: *Gasoline prices lower at several important consuming points in New York and New England states.*

FINANCIAL: *Common oil stocks decline. Average of 30 representative stocks for week ending September 10: High, 29.19; low, 27.86; close, 28.03. Week ending September 3: High, 29.35; low, 28.01; close, 28.95.*

**Detailed information in market section.*

NO "CEMENT HEADACHES"

over shutdowns with UNAFLO CEMENT on the job!

Unaflo back washed out with normal pressure after 2 hour shut down

In this particular well, a cement retainer was run to 4063' on 2¼" tubing, above the top perforations which had been previously cemented off.

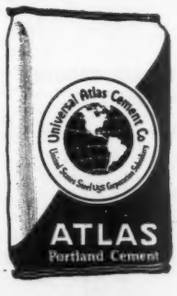
598 sacks of Unaflo cement were pumped into the tubing. Working pressure was only 1000 to 1500 lbs. At this point there was an unavoidable delay of 2 hr., 14 min. However in spite of this shut down, Unaflo was back washed out of the tubing with normal pressure.

Time of cementing operations:

Mix and pump 598 sacks Unaflo	1 hr. 23 min.
Make repairs	2 hr. 14 min.
Unscrew tubing from retainer	13 min.
Back wash tubing	32 min.
Total	4 hr. 22 min.

Have *you* tried Unaflo? If not, use it on your next job and see why operators everywhere are enthusiastic about this easy flowing cement with a retarded set that gives you *time* to get it down in the hole in the face of delays—then sets hard as a billiard ball to form a tight shut-off against water and gas. Universal Atlas Cement Co., United States Steel Corporation Subsidiary, Amicable Bldg., Waco, Texas; Kansas City; Tulsa; Oklahoma City.

A Cement for Every Oil Company use at Oil Well, Refinery, and Filling Station



Atlas portland cement for *surface* work and for cementing *surface* casing. Unaflo cement is recommended for *deep* well work.

Lumnite cement is used in Oil Refineries for making Refractory, Insulating and Heat-Resistant Concrete Linings in Still Furnace Walls, Bottoms, Roofs, Foundations, Ducts, Flues and Stack Linings; Tube Sheet Insulation.

Lumnite cement makes Corrosion-Resistant Concrete and Mortar Lining in Distillation and Cracking Units; Re-Run Stills; Absorption Systems; Chemical Treating and Ethyl Plants.

Atlas White the cement that is pure *white* and non-staining. Exceeds specification requirements for portland cement strength. Ideal for ornamental work in connection with service station construction and repair.

U-19

Universal Atlas
CEMENTS

Natural Gas News

Cut in California Gas Rates Held Not Confiscatory

LOS ANGELES, Calif.—The State Railroad Commission's five-year-old order cutting Pacific Gas & Electric Co. natural gas rates $2,100,000 annually was upheld as "not confiscatory" by the federal circuit court. The long legal fight, now at an end unless another appeal is taken, carried the case twice before the Supreme Court of the United States.

Judge Curtis D. Wilbur wrote the 57-page opinion, which concluded "the charge of confiscation is not clearly shown by this record."

The court held that a net return of 6½ per cent on investment was a fair one, and found that in the years from 1933 to 1936 the P. G. & E. cleared a profit above that amount.

Second Application for Permit To Export Gas to Mexico

WASHINGTON, D. C.—Receipt by the Federal Power Commission of a second application under the Natural Gas Act for authority to export natural gas from the United States was announced by Acting Chairman Clyde L. Seavey. The application was filed by the United Gas Corp., of Houston, Tex., and asks authority to export natural gas from Texas to Mexico.

The United asks authority to sell and deliver natural gas from its Laredo, Tex., distribution system to the Compania de Gas de Nuevo Laredo, S. A., a Mexican corporation which transports and delivers the gas to its customers in Nuevo Laredo, Tamaulipas, Mexico.

The first application to export natural gas, announced by the commission on August 17, was filed by the United Gas Pipe Line Co., also of Houston, and asked authority to export natural gas from Texas for ultimate sale and distribution to consumers in Monterrey, Mexico, by the Compania Mexicana de Gas, S. A., which serves the Monterrey area.

El Paso Seeks PWA Loan For Municipal Gas Plant

FORT WORTH, Tex.—Mayor M. A. Harlin, of El Paso has presented an application to Public Works Administration for a $2,000,000 loan to build a gas distribution system for that city. El Paso now is served by the Texas Cities Gas Co., Lone Star subsidiary.

"Under the rules of PWA, the city will have to make a reasonable offer for the existing distribution system," said Regional PWA Director George Bull. "The PWA is given authority to determine what is reasonable."

A 55 per cent loan would be repaid from revenue bonds, Mayor Harlin said.

Talk of Alberta and Montana Gas for Minnesota-Dakota

CALGARY, Alberta.—Plans are being discussed for utilization of surplus Alberta gas in connection with a project to pipe Montana gas to the industrial areas of Minnesota and North Dakota, particularly for use as fuel in the treatment of low grade iron ores.

The possibility of utilizing surplus gas from Turner Valley for this purpose is regarded as remote, in view of the conservation measures now being adopted to protect existing reserves. Under the first conservation order, just issued, there is, however, a surplus of probably 80,000,000 feet a day which might be available; but this represents the maximum amount. Drawing gas from Turner Valley would involve a considerable extension to the projected pipe line.

In southern Alberta, east of Coutts and close to the Montana boundary, Range Oil & Gas Co. of Calgary has No. 1 well which came in some years ago with a reputed open flow of 65,000,000 feet a day, since shut in, except for occasional small exports to Montana. The Range company has a permit to export gas, and already has pipe line connections with the Montana systems. The company is drilling a second well on the same structure. There are several gassers in the border area at present shut in for lack of market, and whose production might be available for the international project.

New Allowables for Gas Wells In Turner Valley Field

CALGARY, Alberta.—Following the announcement of new crude allowables, the Conservation Board has announced a schedule of quotas for 96 Turner Valley gas wells, effective September 14.

Gas production from gas-naphtha wells will be held to 40,000,000 feet a day or 1,200,000,000 feet a month. In addition, crude producers will be allowed about 90,000,000 feet a day to lift crude oil.

The field is capable of producing 383,750,000 feet a day. The market demand of Canadian Western Natural Gas, Light, Heat & Power Co., supplying Calgary, Lethbridge and other southern Alberta communities, is placed at 20,000,000 feet a day. The remaining 20,000,000 feet allowed gas wells is for field and industrial purposes and for repressuring of Bow Island field. Approximately 10,000,000 feet of the 90,000,000 feet allowed crude wells will be used for field purposes. It is estimated the order will reduce wastage by more than 240,000,000 feet a day.

The effect of the conservation order on gasoline absorption plants in Turner Valley has not yet been determined. There are four plants, two owned by Royalite Oil Co., one by Gas and Oil Products, Ltd., and one by British American Oil Co. It is estimated they process an aggregate of 140,000,000 feet of gas per day. Most of this comes from naphtha wells; and it is doubted if the gas produced by crude wells contains sufficient naphtha to justify processing.

Sale of Sapulpa Gas Co. Confirmed by Court

Federal Judge Franklin E. Kennamer has confirmed the sale of the Sapulpa Gas Co. for $124,000 to I. E. Nelson of Winfield, Kans., trustee for bondholders, after a hearing at which the city of Sapulpa protested the sale. The court retained jurisdiction pending settlement of creditors' claims. The sale was made July 22.

Louisiana Gas Companies In Reorganization Plan

SHREVEPORT, La.—The plan of reorganization of Peoples Gas & Fuel Co. and Northwest Louisiana Gas Co. has been approved by Judge Ben C. Dawkins in federal court.

Natural Gasoline

Further Decrease Is Noted in Natural Gasoline Production

The rate of natural gasoline production decreased slightly in July, according to the Bureau of Mines. The daily average in July was 5,591,000 gallons, or 10,000 gallons less than in June. The principal declines in production were registered in Kansas and in the Panhandle, Kettleman Hills, and Oklahoma City fields. The principal increases occurred in the Texas Gulf and East Texas. By virtue of this gain the East Texas field passed the Panhandle as the largest producing district in the country.

Stocks continued to increase and reached a new high of 319,788,000 gallons on July 31.

Shipments to jobbers and retailers and exports in July totaled 20,244,000 gallons, or 12,054,000 gallons less than in June. Although exports declined 49 per cent below June, the total of 10,542,000 gallons was materially higher than in July 1937.

The average vapor pressure of shipments to refineries increased, but that for all other shipments decreased. The weighted average vapor pressure of all movements in July was 18.7 pounds compared with 18.6 in June.

RECEIPTS AND DELIVERIES BY DISTRICTS

(July—in thousands of gallons)

	Deliveries		Receipts	
	To refineries	Exports	At refinery owned bulk plants	By jobbers and retailers
East Coast	...	...	16	24
Appalachian	2,241	113	341	1,091
Ind., Ill., Ky., etc.	897	....	614	2,188
Oklahoma	29,224	64	31	1,059
Kans., Mo., etc.	2,661	....	344	276
Texas Inland	24,169	112	290	2,990
Texas Gulf	4,996	...	...	...
La. and Ark.	5,383	7,817	..	1,287
Rocky Mountain	3,448	..	44	140
California	51,175	2,436	...	647
Total	124,194	10,542	1,680	9,702
Daily average	4,006	340	54	213
Total (thousands of barrels)	2,957	251	40	231
Average V. P.	19.4	16.4	11.1	13.8

PRODUCTION AND STOCKS OF NATURAL GASOLINE

(July—in thousands of gallons)

	Production				Stocks at refineries
	July 1938	June 1	Jan.-July 1938	Jan.-July 1937	
East Coast	...	...	...	...	3,192
Appalachian	3,806	4,122	39,202	43,473	840
Illinois, Michigan, Kentucky	983	1,019	7,021	6,852	4,200
Oklahoma	37,110	36,702	276,151	268,719	2,478
Oklahoma City	10,919	11,199	85,004	88,483	....
Osage County	4,182	4,020	28,435	28,919	....
Seminole	8,965	8,954	69,439	68,212	....
Rest of state	13,044	12,529	93,273	83,105	....
Kansas	3,633	4,192	30,783	32,019	....
Texas	57,453	52,525	374,094	334,013	8,946
Gulf	6,206	5,435	32,127	15,951	8,106
East Texas	18,254	15,494	109,044	104,605	....
Panhandle	17,429	17,368	132,570	121,699	....
North Texas	2,119	2,112	14,700	15,312	....
West Central	5,884	5,468	39,974	40,756	....
Rest of state	7,561	6,648	45,679	35,690	....
Louisiana	7,166	7,210	50,257	55,181	84
Arkansas	1,835	1,725	12,865	6,487	210
Rocky Mountain	6,873	6,423	43,953	40,542	5,334
California	54,475	54,124	385,606	350,956	134,358
Huntington Beach	3,660	3,546	24,969	24,245	....
Kettleman Hills	14,822	14,927	106,525	103,584	....
Long Beach	8,487	7,968	53,398	49,678	....
Santa Fe Springs	5,365	5,290	37,801	33,359	....
Ventura Avenue	4,461	4,617	32,850	30,493	....
Rest of state	17,680	17,776	130,063	109,597	....
Total	173,334	168,042	1,219,932	1,138,242	159,642
Daily average	5,591	5,601	5,754	5,389	....

Pipe Line Activity

Cleaning gang at work

Ditching and Laying Pipe on Stanolind Hammond Line

The Sheehan Pipe Line Construction Co. has started work on ditching and laying pipe on the 6½ miles of 12-inch and 1 mile of 14-inch pipe line to be constructed for Stanolind Pipe Line Co. from Hammond, Ind. This new line replaces an old one being taken up and abandoned so the capacity of the system will not be changed. It is expected the work will be completed in about 45 days from time of starting.

Pipe Line From Lucas Area By Industrial Gas Co.

SHREVEPORT, La.—Right of way deeds for a pipe line in the Lucas area, southeast of Shreveport, taken by R. E. Boothe and then assigned to Industrial Gas Co., Inc., have been placed on record.

In the assignment from Mr. Boothe to Industrial Gas Co., the line was described for the purpose of the conveyance of oil, gas and petroleum products.

Projected Gasoline Pipe Line In France May Materialize

The project of a gasoline pipe line from the coast of France to a point well in the interior has reached a status of comparative certainty. The line has been rumored as a military project for several months and it is now reported from Europe that construction will start during the last quarter of this year.

Details recently published provide for a 12-inch pipe line from the port of Donges, near St. Nazaire on the Loire estuary, extending eastward for about 280 miles along the river to Orleans, terminating temporarily at Montargis. The pipe line, cost of which is estimated at about $4,000,000, will link the Atlantic coast of France with the Orleans-Loing-Briare canal system in central France.

The line is to be buried three to four feet. Selection of Donges as the Atlantic terminal of the line was made for a dual consideration. In the first place, two French refiners are located nearby and are in position to make deliveries direct into the system. Furthermore, the port of Donges is less susceptible to attack in case of war than some port on the northern coast.

Terminal storage facilities will be provided near the eastern end of the line at Montargis although extensions could be made at a later date to Rheims, Chalon and Nancy. The line will pass through a comparatively small peace-time consuming section of the country and the project is therefore considered almost exclusively in the light of military preparedness.

Four Michigan Gas Companies Form New Corporation

DETROIT, Mich.—Creation of a $78,000,000 gas utility company through the merger of four concerns now serving Michigan communities, all controlled by the American Light and Traction Co., may result from plans submitted to federal and state authorities asking for permission to combine the four concerns and to refinance the merged organizations.

The new concern, to be known as the Michigan Consolidated Gas Co., would result from the merger of the Detroit City Gas Co., Grand Rapids Gas Light Co., Washtenaw (Ann Arbor) Gas Co. and Muskegon Gas Co.

First steps in the proposed consolidation were taken when the Detroit City Gas Co. received permission from the Michigan Public Utilities Commission to change its name to the Michigan Consolidated Gas Co.

The SEC has set September 19 for the hearing on the formation of the Michigan Consolidated Gas Co., which also will cover the proposal of the new concern to sell $42,000,000 of bonds and notes and its acquisition of the properties of three Michigan utilities.

E. O. Thompson Fears Federal Regulation of Natural Gas

AUSTIN, Tex.—An opinion that the federal Natural Gas Act possibly leaves the way open to encroachment of duties rightfully belonging to states was expressed by Ernest O. Thompson, chairman of the Interstate Oil Compact Commission and member of the Texas Railroad Commission.

Mr. Thompson said the law, authorizing federal regulation of transportation and sale of gas in interstate commerce, undoubtedly was advantageous to consumers and regulatory bodies in states receiving their gas in interstate commerce. He added, however, there was danger of ultimate federal control in states such as Texas where a great portion of gas production goes into interstate commerce.

"I have always contended that poor state regulation, feeble though it may be, is more desirable than complete federal control," Mr. Thompson said.

Refinery Expansion

Start Construction of New British American Refinery

CALGARY, Alberta.—Following approval by Hon. W. A. Fallow, provincial minister of public works, to a Calgary bylaw re-zoning the British American Oil Co. refinery site in East Calgary, construction of the plant will be commenced about September 15. The plant will cost approximately $1,350,000 and completion is expected around May 1, 1939. About 300 to 400 men will be employed on construction, and a refinery staff of 75 when the plant is operating.

Cooperative Distributing System Is Extended

PEACE RIVER, Alberta.—The United Farmers of Alberta Central Cooperative Association is extending its petroleum distributing system into Peace River district. A central plant, operated by Maple Leaf Petroleum, has been built at Grande Prairie, with storage for 50,000 gallons; and underground tanks and warehouses have been built at Sexsmith, Beaver Lodge, Hythe, Fairview, Brownvale and Grimshaw. A wholesale plant has been built at Mannville. The Cooperative Association is now operating wholesale agencies, under contract with Maple Leaf Petroleum, at nearly 100 points in Alberta.

Atlantic Refinery Receives Large Crude Oil Consignment

PHILADELPHIA, Pa.—The largest consignment of crude oil ever received within a 24-hour period by the Point Breeze refinery of the Atlantic Refining Co. arrived when four of the largest vessels of the Atlantic tanker fleet docked with 20,000,000 gallons of crude from Texas Gulf ports. The vessels were the S.S. J. W. Van Dyke, Robert H. Colley, W. D. Anderson, and Albert Hill.

The consignment of crude is sufficient to yield approximately 478,000 gallons of lubricating oil, 956,000 gallons of kerosene, 7,648,000 gallons of gas and fuel oil, and 8,604,000 gallons of gasoline—an amount of gasoline sufficient to meet the average annual requirements of more than 13,000 motorists. The S.S. J. W. Van Dyke and the S.S. Robert H. Colley, both commissioned this year, are the world's two largest welded ships and the first American-built turbo-electric tankers.

Mid-Continent Will Add Equipment at West Tulsa

In the near future the Mid-Continent Petroleum Corp. will add a propane deasphaltizing and treating unit to its West Tulsa, Okla., refinery as part of a $1,000,000 program of remodeling to expand the production of lubricating oils.

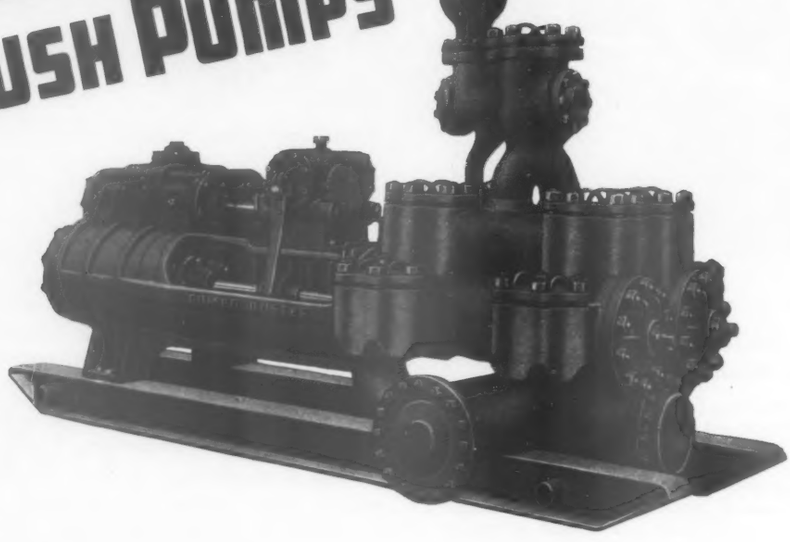
Gulf to Install Treating Unit

The Gulf Oil Corp. will install an 8,250-bbl. Stratcold acid treating unit in its Girard Point Philadelphia refinery. A 12,000-bbl. unit was recently completed for the same company and placed in operation in its Port Arthur, Tex., plant.

COSTS LESS TO OPERATE

GUMBO BUSTER (JOHNSTON) STEAM SLUSH PUMPS

SIZES
16" x 8½" x 20"
14½" x 7½" x 18"



NO FLUID END REPLACEMENTS

LESS STEAM REQUIRED

LESS WEIGHT TO HANDLE

FEWER REPAIR PARTS NEEDED

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Large, short and straight steam port passages reduce steam consumption materially over that of the conventional pump design.

The stronger, but lighter, STEEL Fluid End reduces the weight of Gumbo Buster Pumps up to 30% below that of comparative size Pumps with iron Fluid Ends.

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AND BRANCH STORES

Gasoline Demand in July Was Below Expectation

Crude-oil production increased sharply in July, when the daily average was 3,319,000 bbls., or 177,000 bbls. higher than in June, according to the Bureau of Mines report.

Most of the increase in production in July occurred in Texas, where production increased in every major district except Rodessa. This gain in Texas was due primarily to abandoning the Saturday shutdown. Production in California declined, which helped in halting the upward trend in stocks. Arkansas, with the Schuler field in the spotlight, made a notable gain, as did Illinois, where 116 oil wells were completed in July. Kansas, Louisiana, New Mexico, and Oklahoma showed small gains in daily average production in July.

The draft on crude-oil stocks was less than in June, due to the gain in production; nevertheless, nearly 4,000,000 bbls. were withdrawn in July, and the total on hand July 31 (288,664,000 bbls.) presaged a new low to be reached in August.

The yield of gasoline rose to 44.7 per cent in July, this being .4 per cent higher than in June and 1.5 per cent above a year ago. Primarily because of the generally poor weather in July, the indicated domestic demand for motor fuel failed by a generous margin to approach expectations. The July figure was 47,474,000 bbls., or 6 per cent lower than a year ago. The decline in demand (the July demand was less than that of June for the first time since 1933) and increased activity at cracking plants were reflected in gasoline stocks, which did not decline as expected. Finished and unfinished gasoline stocks on July 31 totaled 76,732,000 bbls., 3,799,000 bbls. less than on June 30, but about 6,400,000 bbls. more than on hand a year ago.

The indicated domestic demand for gas oil and distillate fuel oil increased materially over June and surpassed that of July, 1937. On the other hand, the domestic demand for residual fuel oil was 20 per cent lower than a year ago.

According to data of the Bureau of Labor Statistics, the price index for petroleum products in July, 1938, was 56.8, compared with 56.3 in June and 61.8 in July, 1937.

United States Supply and Demand—Crude Oil (Bbls.)

First seven months 1938 and 1937

7 MONTHS—	*TOTAL SUPPLY*	*TOTAL DEMAND*	*EXCESS DEMAND*	*EXCESS PCT.*	*DOMESTIC PRODUCTION*	*IMPORTS*	*INDICATED DOMESTIC DEMAND‡*	*EXPORTS*	*STOCKS REFINABLE CRUDE JULY 31*
1938	720,956,000	738,376,000	17,420,000	2.4	705,744,000	15,212,000	690,949,000	47,427,000	‖288,664,000
Daily average	3,401,000	3,483,000	.....	...	3,329,000	72,000	3,259,000	228,000	.....
1937	745,823,000	725,676,000	*20,147,000	*2.8	730,887,000	14,936,000	690,868,000	34,808,000	308,726,000
Daily average	3,518,000	3,423,000	.....	...	3,448,000	70,000	3,212,000	164,000	.....
Increase, 1938	†24,867,000	12,700,000	.....	...	†25,143,000	276,000	81,000	12,619,000	†20,062,000
	†3.4%	1.8%	.....	...	†3.6%	1.8%	0.01%	36.3%	†6.9%

Supply and Demand—Refinery Products—Motor Fuels (Bbls.)

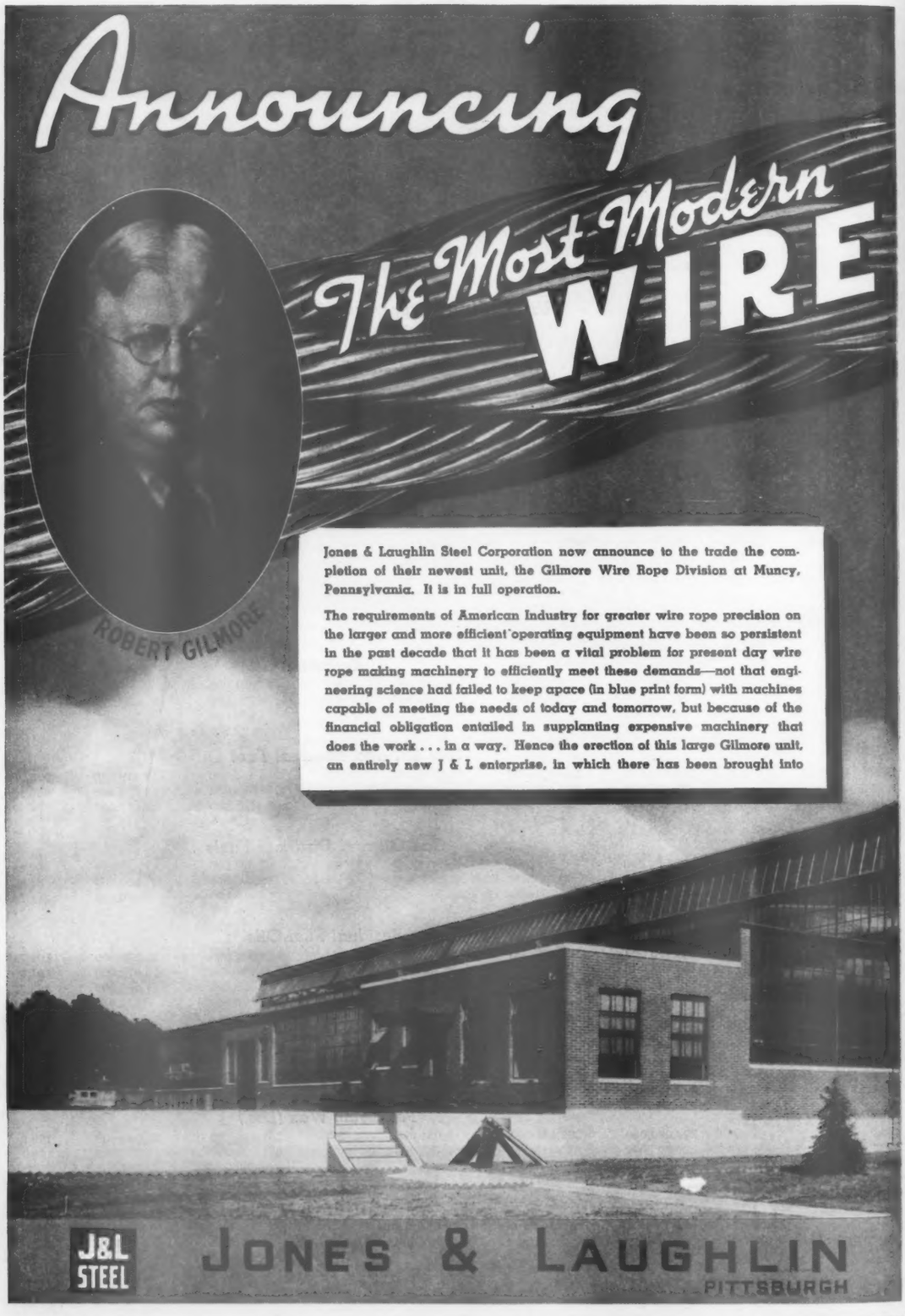
7 MONTHS—	*TOTAL SUPPLY*	*TOTAL DEMAND*	*EXCESS DEMAND*	*EXCESS PCT.*	*DOMESTIC PRODUCTION*	*IMPORTS*	*DOMESTIC DEMAND*	*EXPORTS*	*STOCKS JULY 31§*
1938	323,610,000	320,422,000	*3,188,000	*1.0	323,610,000	.....	292,228,000	28,194,000	77,838,000
Daily average	1,526,000	1,511,000	.		1,526,000	.....	1,378,000	133,000	.....
1937	324,201,000	314,645,000	*9,556,000	*3.0	324,201,000	.....	294,434,000	20,211,000	69,874,000
Daily average	1,529,000	1,495,000	.....	...	1,529,000	.....	1,388	95,000	.....
Increase, 1938	†591,000	5,777,000	.....	..	†591,000	.....	†2,206,000	7,983,000	7,964,000
	†0.2%	1.8%	.....	.	†0.2%	.....	†0.8%	39.5%	11.4%
Kerosene									
1938	37,821,000	34,792,000	*3,029,000	8.7	37,821,000	.....	30,506,000	4,286,000	10,112,000
1937	36,795,000	34,875,000	*1,920,000	5.5	36,795,000	.....	29,777,000	5,098,000	7,553,000
Increase, 1938	1,026,000	†83,000	.....	...	1,026,000	.....	729,000	†812,000	2,559,000
	2.8%	†0.2%	.....	..	2.8%	.....	2.4%	†15.9%	33.9%
Gas Oil and Residual Fuel Oil¶									
1938	268,933,000	253,919,000	*15,014,000	*5.9	256,454,000	12,479,000	225,702,000	28,217,000	125,983,000
1937	271,085,000	280,426,000	9,341,000	3.7	256,585,000	14,500,000	255,178,000	25,248,000	107,791,000
Increase, 1938	†2,152,000	†26,507,000	.....	..	†131,000	†2,021,000	†29,476,000	2,969,000	18,192,000
	†0.8%	†10.4%	.....	...	†0.01%	†16.2%	†13.1%	11.8%	16.9%
Gas Oil and Distillate Fuels									
1938	85,523,000	81,469,000	4,054,000	*4.9	85,523,000	.....	62,983,000	18,486,000	26,620,000
1937	81,630,000	80,712,000	*918,000	*1.1	81,104,000	526,000	64,084,000	16,628,000	23,637,000
Increase, 1938	3,893,000	757,000	.....	..	4,419,000	†526,000	†1,101,000	1,858,000	2,983,000
	4.8%	0.9%	.....	...	5.4%	.....	†1.7%	11.1%	12.6%
Residual Fuel Oils									
1938	183,410,000	172,450,000	*10,960,000	*6.4	170,931,000	12,479,000	162,719,000	9,731,000	99,363,000
1937	189,455,000	199,714,000	10,259,000	5.4	175,481,000	13,974,000	191,094,000	8,620,000	84,154,000
Increase, 1938	†6,045,000	†27,264,000	.....	...	†4,550,000	†1,495,000	†28,375,000	1,111,000	15,209,000
	†3.3%	†15.7%	.....	...	†2.6%	†11.9%	†17.4%	12.8%	18.1%
Lubricating Oils									
1938	18,084,000	17,404,000	*680,000	*3.9	18,084,000	.....	11,747,000	5,657,000	8,194,000
1937	20,397,000	20,314,000	*83,000	*0.4	20,397,000	.....	13,984,000	6,330,000	6,566,000
Increase, 1938	†2,313,000	†2,910,000	.....	...	†2,313,000	.....	†2,237,000	†673,000	1,628,000
	†12.8%	†16.7%	.....	...	†12.8%	.....	†19.0%	†11.9%	24.8%
Petroleum Wax (Lbs.)									
1938	273,080,000	282,161,000	9,081,000	3.3	251,440,000	21,640,000	179,047,000	103,114,000	135,911,000
1937	320,646,000	323,377,000	2,731,000	0.9	301,000,000	19,646,000	179,153,000	144,224,000	107,903,000
Increase, 1938	†47,566,000	†41,216,000	.....	...	†49,560,000	1,994,000	†106,000	†41,110,000	28,008,000
	†19.7%	†14.6%	.....	...	†19.7%	1.01%	†.06%	†39.8%	26.0%

*Excess supply. †Decrease. ‡Crude oil only. §Includes finished and unfinished refinery gasoline and natural gasolines. ¶Gas oil and fuel oil equals gas oil and distillate fuels plus residual fuel oils. Note: Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products are based on refinery shipments. ‖Does not include 17,646,000 bbls. of heavy oil in California. Comparable figure for July 31, 1937, not available.

Crude Oil Run to Stills and Total All Oils (Bbls.)

7 MONTHS	*TOTAL IMPORTS§*	*TOTAL EXPORTS§*	*TOTAL CRUDE TO STILLS*	*PER CENT YIELD GASOLINE‡*	*NATURAL GASOLINE PRODUCTION*	*TOTAL SUPPLY ALL OILS**	*TOTAL DEMAND ALL OILS**	*STOCKS ALL OILS JULY 31**
1938	30,401,000	114,724,000	670,613,000	46.9	29,046,000	766,077,000	746,093,000	583,970,000
Daily average	143,000	541,000	3,163,000	...	137,000	3,613,000	3,519,000	.....
1937	32,938,000	92,933,000	671,694,000	46.8	27,101,000	792,633,000	757,571,000	553,708,000
Daily average	155,000	438,000	3,168,000	...	128,000	3,739,000	3,573,000	.....
Increase, 1938	†2,537,000	21,791,000	†1,081,000	...	1,945,000	†26,556,000	†11,478,000	30,262,000
	†8.3%	23.4%	†0.2%	...	7.2%	†3.5%	†1.5%	5.4%

*Total all oils includes crude and refined products, natural gasoline and benzol. Stocks on July 31, 1938, represented 166 days' supply which compared to 155 days on same date in 1937. †Decrease. ‡Includes natural gasoline blended at refineries. §Includes crude oil and refinery products. In case of imports includes receipts in bond and for domestic use. All data based on Bureau of Mines reports.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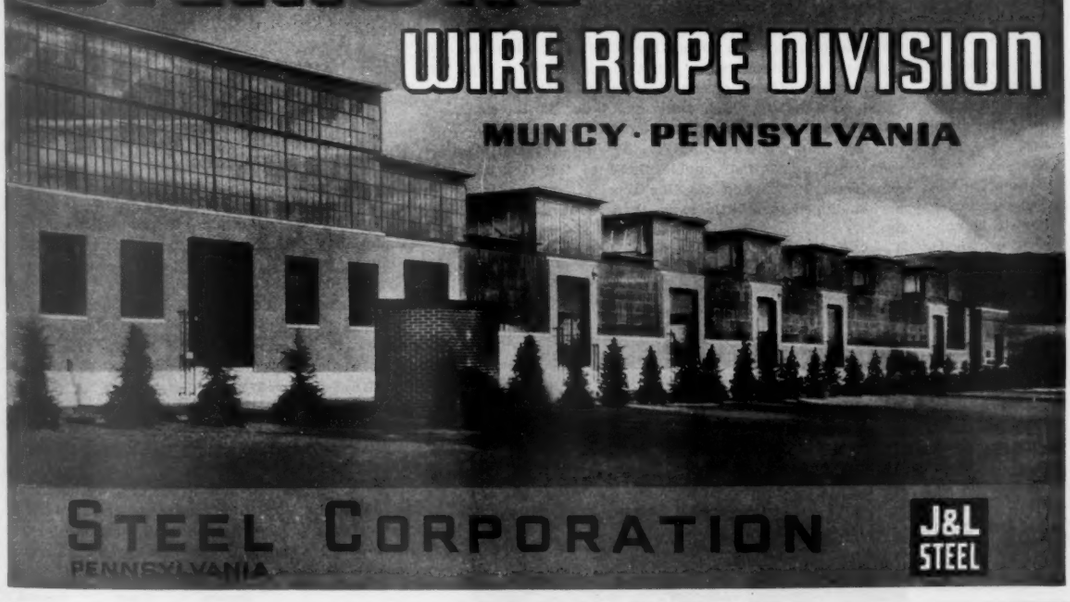

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INTERNATIONAL NEWS

Mexican Court Decides Labor Suit Against Companies

Nearly six months have passed since Mexico expropriated the oil properties and despite diplomatic representations a solution seems no nearer.

Blocked in many directions from making outright cash sales, the Mexican oil administration has resorted recently to trading or bartering oil in Germany and Italy. The largest sale for cash was made to Eastern States Petroleum Co., for importation into the United States, now in process of delivery.

Indication was given last week that the companies can not expect relief from the expropriation decree from the Mexican courts. The Mexican Supreme Court denied application of the oil companies for an injunction against a ruling by the arbitration board requiring them to pay wage increases. Holding the companies had broken their contract, the court upheld the assessment for three months' wages for about 18,000 employes deprived of their jobs, plus 20 days' pay for each year of service. The decision was merely a formality, but the companies had attempted to avert this liability in event they are ever permitted to repossess their properties or in the event of indemnification in which case the labor bill would doubtless figure prominently in the claims.

From March 18 to September 1, an unofficial tabulation shows that Mexican exports of petroleum amounted to 4,212,000 bbls., of which 2,025,000 bbls., or almost one-half, have gone to Germany. Prior to the confiscation, Mexican shipments abroad amounted to about 2,000,000 bbls. per month. The export movement thus has averaged only about 40 per cent of what it was during the last few years when the private companies operated the properties.

From 50 to 60 per cent of the Mexican petroleum shipments to Germany are being made in exchange for manufactured or semi-manufactured articles. In this way, American merchants are being gradually squeezed from the markets of Mexico. Much of the same barter arrangements are being set up between Italy and Mexico by which Italy will accept greater volume of petroleum from Mexico.

It is reported from Tampico that German consular officials on the Mexican east coast are now cooperating with Mexican officials by certifying that oil being shipped overseas is the property of Mexico. They have taken over the task as the German barter deals with Mexico are increasing.

United States consuls are refusing to notarize the signatures of Mexican officials in regard to the source of shipments of Mexican oil except when it is consigned to the United States. In that case the consuls are stating on notarial affidavits that they can not take the responsibility for the truth of statements, in regard to the ownership of the oil, contained in the documents notarized.

Formation of the new Confederation of Workers of Latin America inaugurated in Mexico City last week received the blessing of John L. Lewis, of the C.I.O. Vincente Lombardo Toledano, head of the Confederation of Mexican Labor, which precipitated incidents culminating in confiscation of the oil properties, was elected president of the new Latin American labor organization creation of which was participated in by delegates from 19 Latin American countries.

Mr. Lewis could not be drawn into an expression over confiscation. Asked whether he merely favored better wages and working conditions or the forcing out of United States industries in Latin America, Mr. Lewis replied he would "leave it to people of these countries to determine what are justifiable policies."

In reply to what he thought of the reduction of United States trade with Mexico to less than one-third and the increase of German shipments to Mexico, Mr. Lewis answered:

"Of course, these decreases have taken places in a number of countries. In Chile, Italian, Japanese and German business interests have supplanted United States interests."

The next move in the diplomatic negotiations between the United States and Mexico is up to Washington. Secretary Hull is reported studying the reply from President Cardenas in which the Mexican Government agreed to submission of the indemnification question on $10,000,000 worth of agrarian land confiscated to a commission but declined to start payments into a fund which would become a part of any settlement arranged by a mixed commission.

French Imports of Petroleum During First Six Months

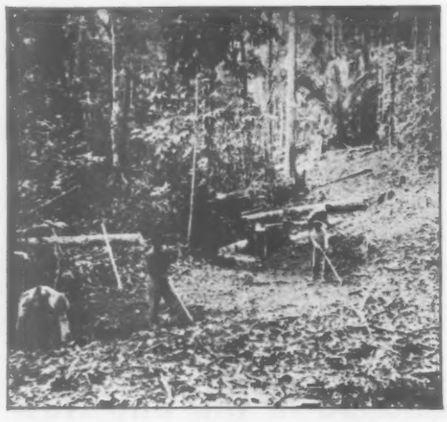
The United States became a close competitor of Iraq as a supplier of France's petroleum requirements during the first half of the current year. In fact, petroleum from this country imported by France represented a considerably higher value than the greater bulk received from Iraq, meaning the French can be considered among this country's imortant customers.

In general, France imported an increased amount of crude oil during the first six months of this year compared to 1937, but refined products received showed a slight decline. Receipts of foreign produced crude oil by France during the first half of this year totaled 3,207,000 metric tons as against 3,109,000 tons in the first six months of 1937.

Italy's Plans for Expansion Of Its Refining Capacity

Plans are reported under consideration for further expansion of the Italian petroleum refining capacity. Projects are under analysis for plants at Genoa, Rome, Ancona and Ravenna. Reorganization of Azienda Petrolifera Italo-Romana under the auspices of Fiat is expected to culminate in addition of at least another active refinery of considerable proportions.

The extent to which Italy has built its internal refining capacity during recent months is indicated by the fact that crude oil imports the first half of this year were more than double those of the first six months of 1937 while gasoline receipts in the same period dipped to a little more than a fourth of 1937 figure.



Courtesy Bart M. Gillespie

Building a roadway through the jungles of Peru where Drilling & Exploration Co. of Los Angeles is drilling a wildcat for Ganzo Azul Compania de Petrolio

The ratio of crude oil imports to those of refined products may undergo even more extensive change in the next year if Italy is successful in bartering for appreciable quantities of Mexican crude and the situation in that Central American country remains unchanged.

In the first half of 1938 the United States lost considerable ground as a supplier of Italian gasoline requirements. During the six months under review Italy received 12,247 tons of gasoline from the U. S. compared to imports of 29,728 tons in the same period of 1937. Central America, doubtless meaning Mexico, supplied 4,155 tons of gasoline to Italy during the first half of 1938, the first time in recent years that this source appeared as a supplier in Italian trade statistics. Details of the Italian petroleum trade appear below and show, among other things, the extent to which the nation's refining industry has attained self sufficiency in the matter of producing finished products.

Italian oil imports during the first six months of 1938 in comparison with the same period last year, follow:

(Figures in metric tons.)

	January to June	
Product—	1938	1937
Crude	774,518	372,965
Gasoline	47,871	163,557
Kerosene	15,320	51,778
Lubricating oil	23,822	38,671
Residual fuel	503,472	684,557
Paraffin wax	6,394	13,234

Italy's gasoline imports were supplied by the following countries in the amounts indicated:

	January to June	
Source—	1938	1937
Rumania	22,350	22,957
United States	12,247	29,728
Netherlands Indies	5,488	8,199
Central America	4,155	.....
Iran	2,954	62,673
U.S.S.R.	13	5,549
Other countries	655	34,451
Total	47,871	163,557

Production by the Italian refining industry is reported as follows:

	January to June	
Product—	1938	1937
Gasoline	176,556	107,532
Kerosene	61,633	43,289
Gas oil	103,737	43,695
Lubricating oil	41,196	25,902
Fuel oil	197,367	121,707

Netherland Indies Crude Oil Production Shows Gain

Netherlands Indian crude oil production showed a substantial gain during the second quarter of 1938, total output during the three months being 3.3 per cent larger than in the previous quarter and 4 per cent larger than in the corresponding period of 1937.

The gain in the second quarter of this year was largely for the account of fields in the Palembang, Sumatra, region. Production from the Palembang section increased by 57,998.6 metric tons, or 9.1 per cent over the first quarter of this year.

Production from the Djambi, Java and North Sumatra fields showed slight gains, but fields in Tarakan, East Borneo and Ceram showed losses of 5.8 per cent, 1.6 per cent and 5 per cent, respectively.

Details concerning the crude oil production of the Netherlands Indies in the second quarter of 1938, with comparative data for the previous quarter and corresponding period of 1937, follow:

Fields—	Second quarter 1937	First quarter 1938	Second quarter 1938
Java and Madura	245,249.3	253,199.4	159,108.7
North Sumatra	212,091.0	225,894.1	227,367.2
Palembang	681,983.4	638,324.6	696,313.2
Djambi	212,817.1	233,140.5	242,188.9
East Borneo	245,663.4	249,172.8	245,144.4
Boenjoe	83.2	.....	.....
Ceram	16,062.4	21,137.3	20,076.3
Totals	1,794,583.8	1,805,471.4	1,865,948.6

A factor of 7.606 bbls. per metric ton should be used for converting the above table to bbls.

ENGINEERING and OPERATING

In This Issue

MAGNOLIA REVAMPS ITS NATURAL GASOLINE PLANT AT ST. LOUIS

By D. H. Stormont ..... *Page 44*

The Magnolia Petroleum Co. had to replace some of the piping in its natural gasoline plant at St. Louis, Okla., so at the same time it decided to revamp the compression, absorption and stabilization equipment to increase the daily output and the efficiency of the plant. Installation of the new equipment and remodeling of the piping required that the plant be shut down for only 24 hours.

INFINITE REFLUX IN THE REFRACTIONATION OF COMPLEX MIXTURES

By W. L. Nelson ..... *Page 46*

A discussion of the effect of "number of plates" for towers using infinite reflux and using an amount of reflux that is in the commercial range. Distillation curves of the gasoline and kerosene produced under these conditions are presented in the fourth of a series.

ILLINOIS DRILLING METHODS REDUCE THE TIME REQUIRED ON WELL

By Harry Simons ..... *Page 49*

In Illinois there has been a reversal of the trend toward heavier equipment because of the shallow wells. In this new area, emphasis is put on speed in rigging up and drilling of the wells. One contractor required only 72 hours to rig up, drill 1,340 feet of hole, set pipe, and tear down the rig.

SAFETY FEATURES USED ON PUMPING EQUIPMENT ..... *Page 53*

Well equipment can be dangerous, a recent fatality in the petroleum industry being due to a lease worker getting his head mashed by a pumping jack. Operators of the lease immediately took steps to prevent the occurrence of similar accidents.

DECLINE CURVE ANALYSIS INDICATES THE RESERVES AND THE PROFITS

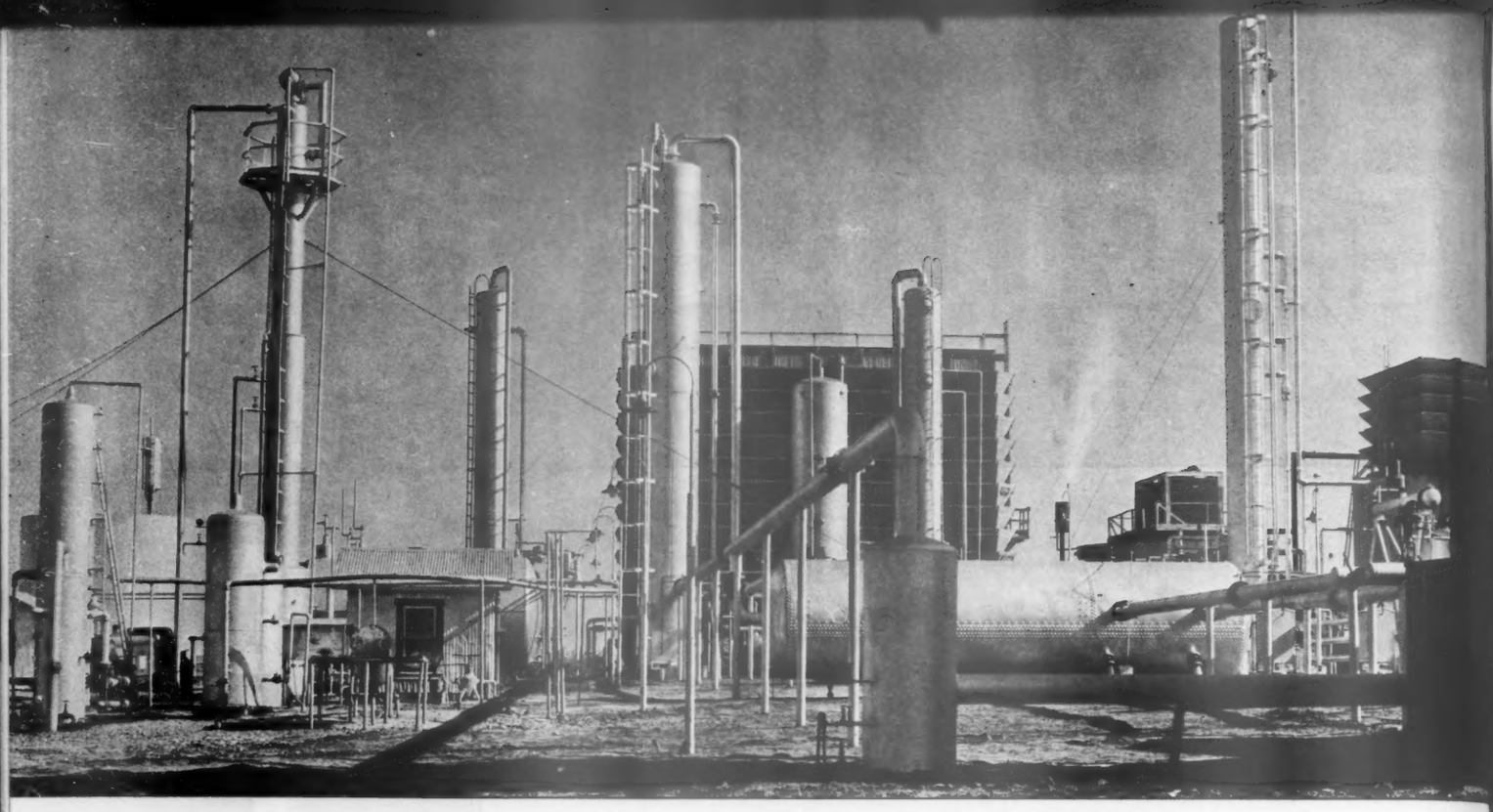
By Henry Emmett Gross ..... *Page 55*

Wells studied by decline curve analysis give a good indication of the economic value of a property. Two types of curves are discussed, the semilogarithmic decline curve with the rate of production plotted on the logarithmic scale and the time on the horizontal scale, and the per cent oil in the fluid versus cumulative production which is plotted on Cartesian coordinate paper.

OPERATING IDEAS ..... *Page 54*

PROBLEMS FROM READERS—*By L. G. E. Bignell* ..... *Page 62*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph. D.* ..... *Page 65*



Absorption and stabilizing equipment in the St. Louis plant. The old stabilizer is shown at the left, the new one at the right

Gasoline Plant at St. Louis Revamped by Magnolia

By D. H. STORMONT

Through revamping of compression, absorption and stabilization equipment at its St. Louis, Okla., natural gasoline plant, Magnolia Petroleum Co. has greatly increased the plant's daily capacity and efficiency of operation. Wider use of recording, control and metering instruments has simplified the plant's operation; use of more modern stabilizing equipment has increased its flexibility; enlargement of cooling facilities permits more efficient absorption of the gasoline vapors from the gas; and rearrangement of piping has resulted in its operation in general, being more streamlined and up to date.

The plant, located in Section 32-8n-8e, Seminole County, was built in 1927-28 as a high-pressure absorption plant and for several years it was operated at a pressure of about 250 pounds due to a large demand for drilling gas. Then in 1932, because of a reduction in drilling gas demand, it was converted into a low-pressure plant. The latest work was necessitated through obsolescence of some of the equipment and need for replacement of piping that had been damaged by the corrosive action of the gas being handled.

The revamping and modernizing work consisted chiefly of the addition of a new fractionator, absorber and forced-draft cooling tower. Also the suction and discharge headers and all interconnecting piping were replaced, the compression equipment rearranged and larger cylinders installed in the compressors. A new line was added to its gas-gathering system which consisted of 2 miles of 16-inch pipe and 1½ miles of 6-inch pipe.

Meter measures gasoline from stabilizer to the run-down tank

Gasoline storage facilities were increased by the installation of a 20,000-bbl. spheroid. Result of the work increased the plant's capacity from 5,000,000 to 11,000,000 cubic feet daily.

In keeping with modern practice of plant construction, all piping was placed on overhead supports, thus eliminating corrosive action of the soil and improving maintenance conditions. Welding of pipe for replacement had to be done away from the plant, due to fire hazards, and the completed joints then inserted in the system. All replacement work and new equipment installation required the plant being shut down for a period of only 24 hours.

One of the plant's chief features resulting from the revamping work is the high degree of instrumentation attained. Proportional controls are installed on the absorber for regulating the rate of oil and gas so that the volume of gas entering the absorber is always in direct proportion to the volume of gas being put through. Like controls are in-

stalled on the stripper to regulate the steam and rich-oil ratio. A flow controller is placed on the stabilizer to control flow of both the reflux and raw feed. The usual recording controls are used to control the absorber and stabilizer pressures; and recording thermometers for the stabilizer top and bottom temperatures, temperature in and out of the still, on the top and bottom of the stabilizer, etc.

In place of the glass thermometers ordinarilly placed in wells at various important points in the system, a 24-point indicating potentiometer is used. The potentiometer is located on the control board and greatly simplifies the work of the operator since the temperature at any of 24 different points can be determined by merely turning the switch to the desired point on the instrument. Among the points in which thermocouples are places are rich gas into absorber, lean oil into absorber, rich oil out of absorber, rich oil out of heat exchangers, rich oil to still from preheaters, raw gasoline out of cooling tower to accumulator, water in and out of cooling tower and others to total 24. Although installation cost of such equipment is much higher than glass thermometers, simplification of the plant's operation and reduced upkeep costs serve to offset the higher initial cost.

Meters Used on Gasoline

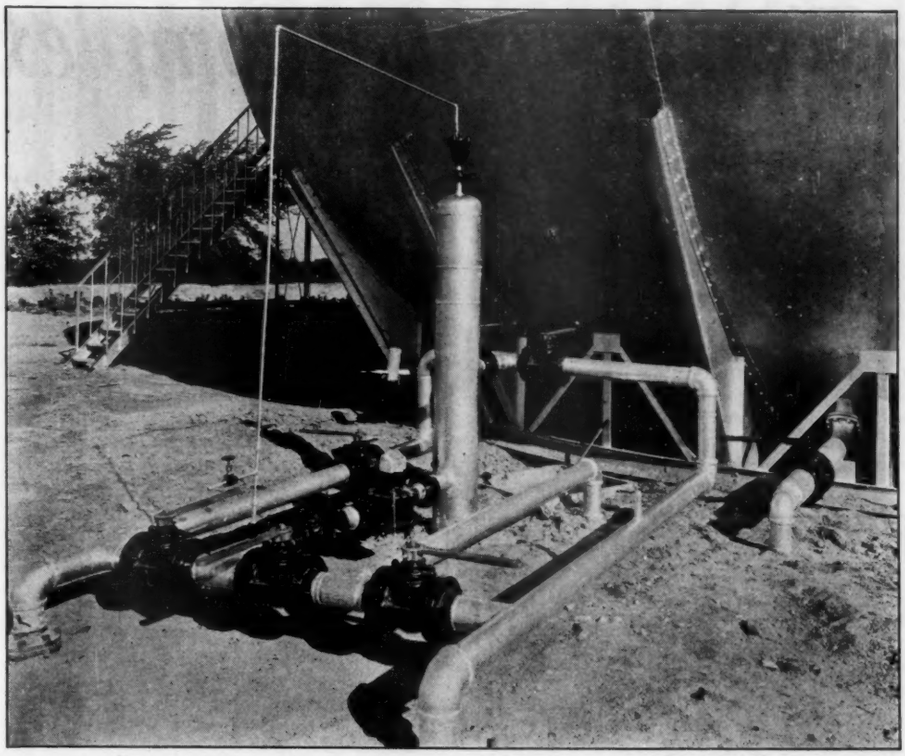
Meters for measuring liquid flow are also widely used in the revamped plant, being used to meter the flow of gasoline from the stabilizer to stock tanks and other important points. The 20,000-bbl. spheroid (operated under 20 pounds pressure) added during the remodeling work is equipped with a liquid meter and through arrangement of the piping the one meter records the amount of gasoline put in and taken from the tank. This makes it possible to estimate the volume of loss through evaporation in the tank. Addition of the spheroid brought the total storage capacity of the plant to approximately 1,000,000 gallons. All natural manufactured at the plant is pumped to the loading rack 3½ miles away for marketing.

In general, flow and operation of the modernized plant closely follows that of usual Mid-Continent practice. Incoming gas is brought to the plant under 18 inches vacuum in the old lines and under 10 inches vacuum in the new system. Compression to 45 pounds is accomplished in two stages, being boosted to atmospheric pressure in the first stage and to 45 pounds pressure in the second stage. The gas is intercooled and scrubbed between the first and second stages and again after the second stage, before it is admitted to a 6-foot by 42-foot, 24-tray absorber.

Lean Oil Circulation

Approximately 75 gallons per minute of lean oil are circulated over the absorber. To avoid overloading the absorber in the advent of more gas becoming available in the future, provision has been made for inter-cooling the absorption oil. This was accomplished by installing connections about one-half way up the tower so that the oil may be removed from the tower, cooled and returned on a lower plate. The oil will thereby be prevented from being raised to too high a temperature by the heat of absorption, which would act to lower the absorption efficiency of the tower. Also less oil could be circulated with the increased gas throughput.

The rich oil is passed from the absorber through conventional heat exchangers and preheaters to the stripper where the gasoline vapors are removed. These vapors are then stabilized in the new column and the finished gasoline run to storage. At present 18,000 to 19,000 gallons of 26-70 grade natural are being recovered from a daily throughput of about 7,000,000 cubic feet of gas, or a recovery of 2.7 gallons per 1,000 feet of gas is being obtained.



Pipe connections on the new 20,000-bbl. storage spheroid which enable one meter to measure the volume of natural gasoline added or pumped from the tank

Three Separators and One Manifold Serve 21 Wells in the Fitts Area

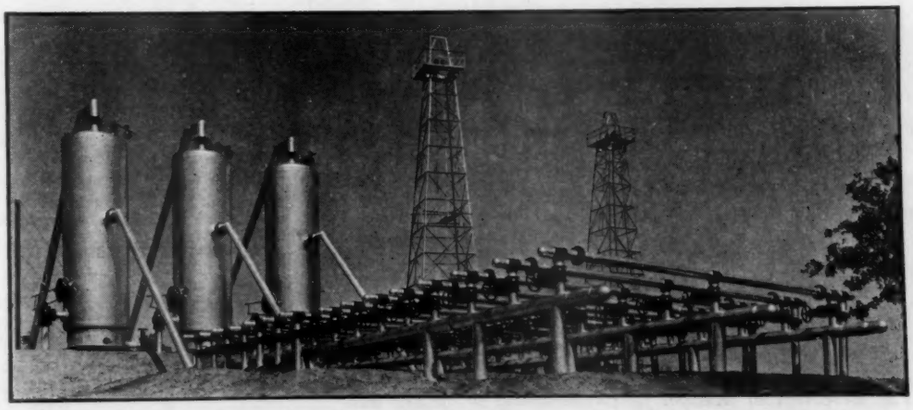
Each field has its individual problems and unique operating conditions. In the Fitts pool near Ada, Okla., many leases have wells producing from two sands and operators from the beginning have sought to lower their equipment investment by using centrally located separators instead of an individual separator for each well. This often requires hooking a large number of wells into one separator or a battery of separators.

One operator, having 21 wells producing at the same time on the lease, designed the above manifold so he could use the centrally located separator battery and still have the flexibility he would enjoy from having a separator on each well.

The three headers are made from 8-inch pipe and connect directly into the separators. All flow lines, connections and valves are 6-inch. Instead of using a welded manifold, this one is constructed with flanged and screwed connections.

Because of the flexibility of this type manifold, the switcher on the lease can check the production of the individual wells and can obtain samples for determining the amount each well is cutting. Enough pressure is kept on the separators to cut down evaporation and move the oil to storage.

Wells in the Fitts field make quite a large amount of paraffin and in time all connections on these wells become partly filled by the formation of a paraffin coating. Bull plugs were installed in the ends of the 8-inch headers for cleaning.



Twenty-one wells in the Fitts pool of Oklahoma are serviced by this manifold

Fractionating Complex Mixtures

Effect of Varying Number of Plates

By W. L. Nelson

Fundamental equations relating the compositions of the vapors on different trays of a fractionating tower were presented in No. 1 of this series and more usable or modified equations were presented in No. 2. These equations are used in this paper in studying the effect of the number of trays on the degree of fractionation.

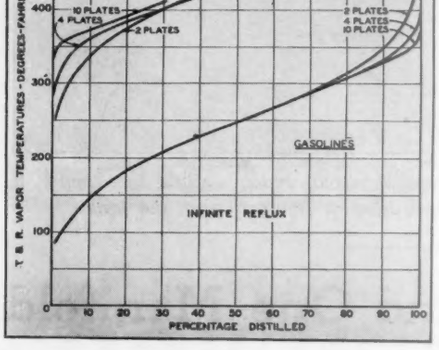


Fig. 5—Effect of number of plates when using infinite reflux. Basis: T.V.P. curves

The same conditions as those used in No. 3 of this series were also employed in this paper except that the number of plates was varied. The distillation curve of the crude oil feed stock was shown in Figure 3 of No. 3 of this series. Two-plate, 4-plate and 10-plate towers were studied for infinite reflux and for a reflux-ratio of 5.35 (e = 10). Infinite reflux is a useful condition to study because it is a measure of perfection and a reflux ratio of 5.35 is useful because many topping towers operate at such a reflux ratio. In these discussions, reflux ratio is defined as the ratio of hot

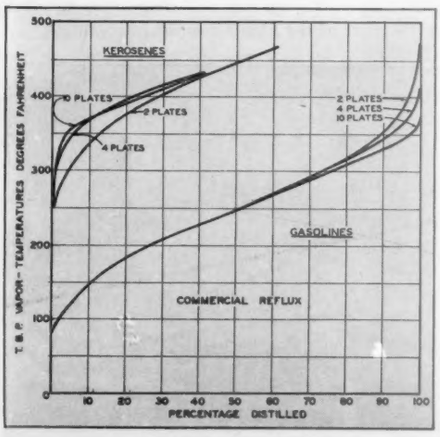


Fig. 6—Effect of number of plates using a reflux ratio of 5.35. Basis: T.B.P. distillation

In the following article the effect of "number of plates" is investigated for towers using infinite reflux and using an amount of reflux that is in the commercial range. Distillation curves of the gasoline and kerosene produced under these conditions are presented. The three articles of this series have appeared in the issues of July 21, August 4, and August 18, of this year.

(or internal) reflux to the overhead product.

The plate temperatures that were used in this paper are given in Table 2. Although reasonably accurate plate temperatures must be employed the temperatures of the end or withdrawal plates are of greatest importance and the temperatures used for the plates that are intermediate between the end plates can vary through a considerable range without markedly affecting[1] the degree of fractionation. The temperatures at the top and side-draw plate must be determined or estimated with care. Experienced design engineers can estimate these temperatures with suitable accuracy but in most cases it is advisable to employ some method of determining the plate temperatures such as that outlined in "Petroleum Refinery Engineering."[2] By employing such a method, the plate temperatures so determined will at least be consistent with the equilibrium constants, tower pressure and quantity of steam, that are used in the computations.

The most noteworthy point concerning Figures 5 and 6 is the fact that the fractionation when using infinite reflux is scarcely better than when using a reflux ratio of 5.35. The gasolines that are produced when using only two theoretical plates are almost identical for reflux ratios of 5.35 and infinity. The effect of using more plates is more pronounced in the kerosene curves than in the gasoline curves, but even in these the difference in fractionation is not markedly better when using infinite reflux. The reflux appears to be most effective when used in the 10-plate tower. Figure 7 shows approximate A.S.T.M. distillation curves estimated from the True Boiling Point data of Figure 6. These curves are for a commercial reflux ratio (b=5.35).

The yields were not greatly different when using infinite reflux. About 28 per cent of gasoline would be produced from this crude oil when using infinite reflux in the 4- and 10-plate towers but only 26 per cent in the 2-plate tower. This is

TABLE 2—PLATE TEMPERATURES

	°F.		
	2-plate tower	4-plate tower	10-plate tower
Top plate	290	290	290
Second plate	420	345	314
Third plate	...	387	334
Fourth plate	...	420	352
Fifth plate	...	...	368
Sixth plate	...	...	383
Seventh plate	...	...	397
Eighth plate	...	...	408
Ninth plate	...	...	416
Tenth plate	...	...	420

scarcely a true picture, however, because the endpoint of the gasoline was much higher when produced from a 2-plate tower.

The effect of number of plates on the A.S.T.M. endpoint of the gasoline product is indicated in Figure 8. The 99 per cent points on the True Boiling Point curves shown in Figures 3, 5, and 6 are

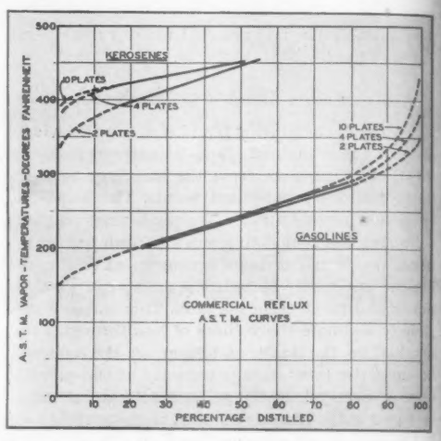


Fig. 7—Effect of number of plates using reflux ratio of 5.35. Basis: A.S.T.M. distillation curves

shown in Figure 8 as a function of the number of plates. The A.S.T.M. endpoint is not coincident with 99 per cent of the True Boiling Point curves, but it is closely related to the 99 per cent point—being a few degrees lower. One important point is evident in Figure 8, namely, the amount of reflux does not greatly affect the A.S.T.M. endpoint.

References

1. Nelson and Roland, Ind. Eng. Chem. 30, 730, 1938.
2. Nelson, Petroleum Refinery Engineering, pp. 443-449. McGraw-Hill Book Co., New York, 1936.

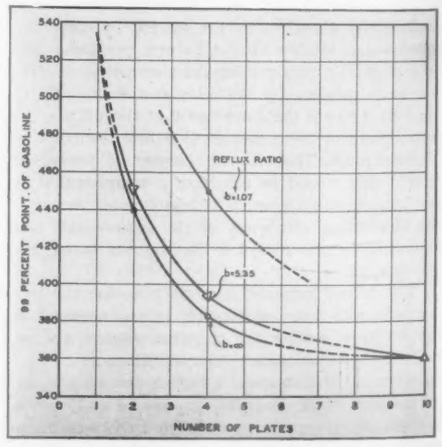


Fig. 8—Relation of number of plates to 99 per cent point with top plate at 290° F.

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National Unit Pumpers, Types TU20G-JD2T, TU70G-JD7T, TU140G-JD14T

	TU20G-JD2T	TU70G-JD7T	TU140G-JD14T
API Walking Beam rating, lbs.	3000	4000	6170
Peak Torque rating, inch lbs.	5400	17900	36800
Overall Reduction Gear ratio	26.0	24.9	24.9
Maximum Polished Rod stroke, inches - - - - -	15	24	32

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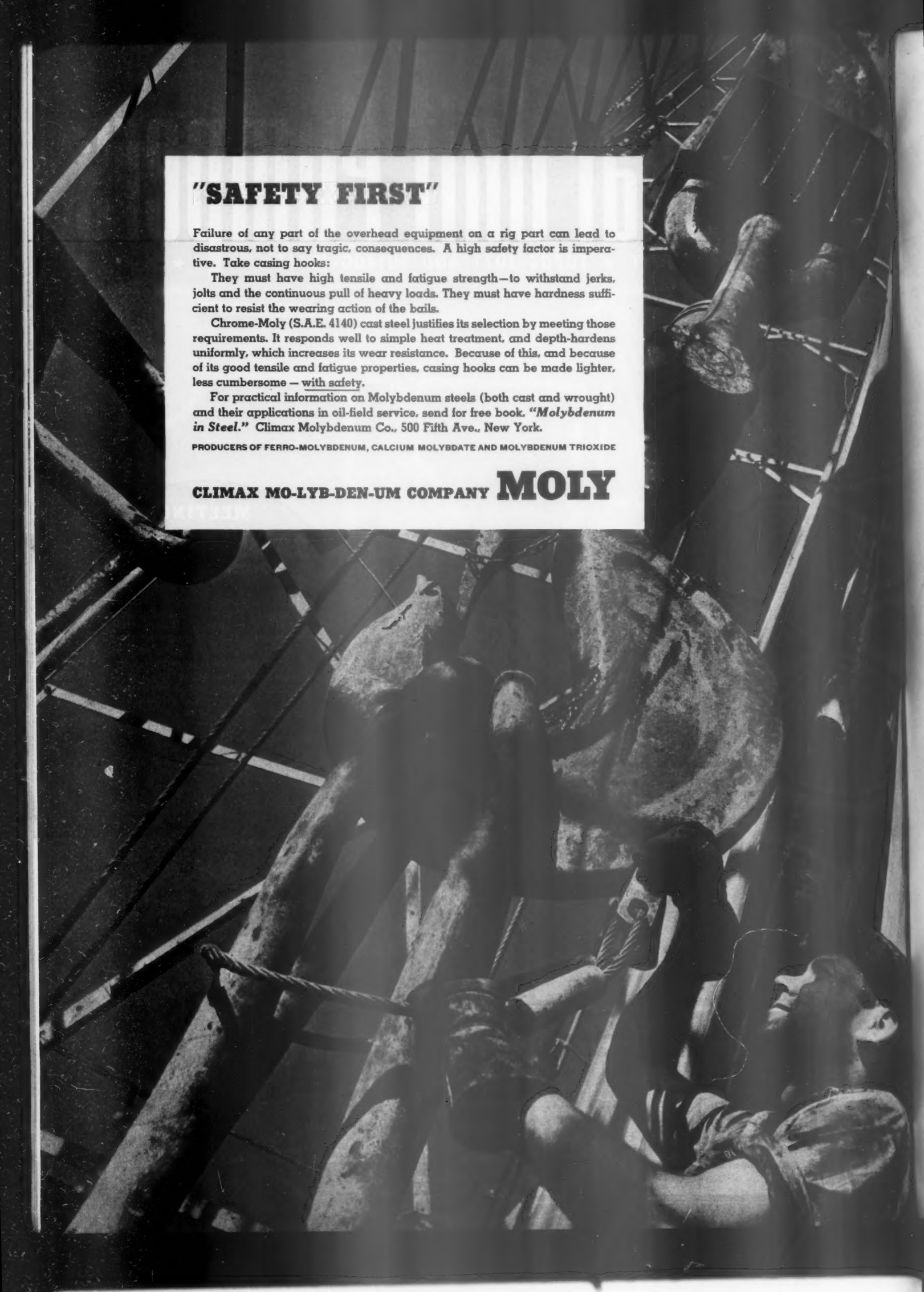

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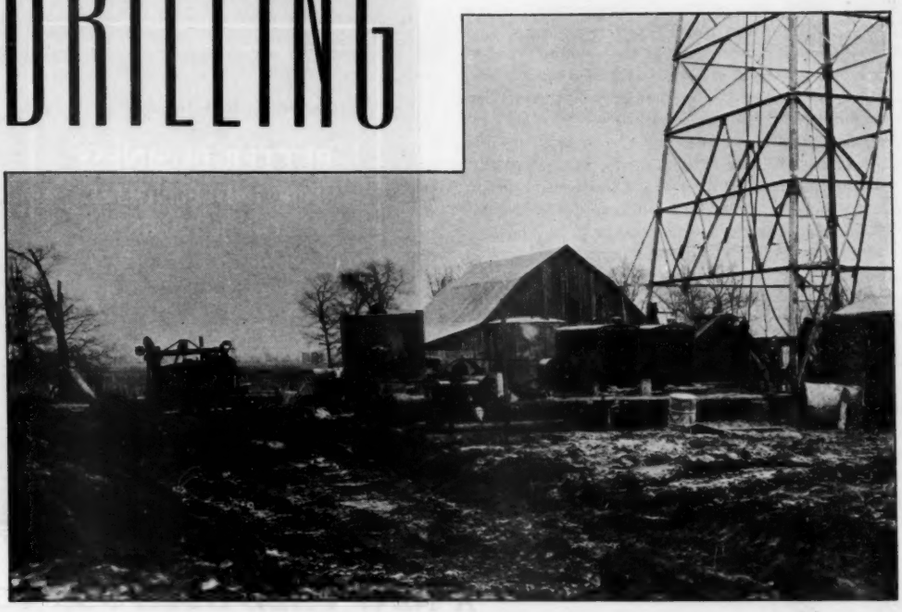
ILLINOIS DRILLING METHODS

By Harry Simons



Rigging up rotary tools in the mud in the Illinois basin fields. The deep ruts in the right foreground were cut by a truck trying to get a piece of machinery in its proper place

Development of new fields generally leads to the introduction of new methods and machinery and during most of the past ten years this has meant larger and heavier equipment because of the increase in depth of the wells. The drilling campaign in the southern Illinois basin reverses this trend, however. There production is being obtained from formations at depths from 1,000 to 3,000 feet. Drilling these shallow wells requires rigs which can be rigged up with a minimum of time and expense and yet are capable of cutting the hole in a few days. This is particularly the case in the shallow fields of Dix, Centralia, Lake Centralia and Beecher City. The deeper fields, in Richland, Clay and Wayne counties require heavier rigs but they have altered the ordinary drilling procedure to decrease the time necessary to drill the holes.

In the shallow field around and in Centralia, it is possible to drive the stake in the morning and by the next morning, the drillers will have started toward the pay. This requires that all workmen involved must not only work fast but must appreciate that they are not going to be on that well more than a few days. They must have accustomed themselves to the Illinois method of drilling. However, it is the general custom in the field to have the derricks and pits ready and the drilling machinery is torn down on the old location and moved to the new location where it is rigged up immediately. The crews continue to work in three eight-hour shifts.

The pits are usually dug with track-type tractors with hydraulically operated blades on the front end, commonly called "bull-dozers." There are no reserve pits and the one circulating pit is from 50 to 75 feet long and from 6 to 9 feet deep. Since many wells in the Centralia field are on town lots, the pits are sometimes dug by hand because of lack of space to maneuver the bull-dozers. There are several crews of pit diggers who can make the hole for the drilling fluid, 16 feet by 30 feet by 5 feet, within an eight-hour day. The mud pit may be located some distance from the rig and a ditch run from the flow line or conductor box to it.

If the job is being hurried the rig builders can erect the derrick in one day. The rig corners are made from short lengths of 8-inch by 10-inch timbers on a matting made from 5 feet lengths of 3-inch by 12-inch oak lumber, and as the derrick has been up before and moved directly from a previous job and none of the material lost, this generally requires only a short time as the timbers merely have to be put in place.

Most derricks are 96-foot structures and some of them are 85-foot pumping derricks, relegged for drilling. There were a few shorter derricks used and for a time there were two 126-foot derricks working in the Centralia area.

Most rigs are either new ones purchased with the shallow drilling in mind or old rigs remodeled to fit the new conditions. Generally, three truck loads, exclusive of the drill pipe, are all that are required to move the rotary rigs. One load is the drawworks and motor, the second the pump and motor, and the third includes the crown, traveling block, rotary table and other light pieces.

Rigging up of rotary drilling tools requires only a short time because a great many things done in deeper areas are omitted. The floor sills are not blocked in most cases and only the space for the rotary table and hoisting unit are leveled. As few nails as possible are used in the derrick floor. If a steam rig, the drawworks is slid onto the

The start of rigging up a rotary in Illinois. The heavy tractor is being loaded on a tandem truck for transportation to the location where it will be used to pull trucks through the mud

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Drilling in the Illinois shallow fields. Cable-tool rig at top used to drill entire hole. Note that on the rotary rig the traveling block is not in line with the kelly joint and swivel due to all the weight being carried on the bit

floor and jacked up and the engine skids slipped under it. The steam line from the boilers is constructed to be easily adjustable and an effort is made to locate the boiler in approximately the same position on each location. Most power rigs in the shallow areas have the motor and drawworks mounted on one skid and placing it in position is a matter of only a few minutes' work.

Connections from the discharge end of the mud pump generally include a flexible high pressure hose with unions on each end, and another is attached to the bottom of the standpipe. This eliminates any pipe cutting and fitting. The pump and motor are also mounted on a single skid and the only problem is to locate the pump so as to make as few mud-line connections as possible. As soon as the suction is installed on the pump, it is ready to operate. No partitions are put in the pits and no mud jets are used.

While the hoisting unit and pump are being put in place, some of the crew dig the hole for the conductor box or pipe. A "pipe" is made from one or two old oil drums with a notch in one side for the flow ditch. No wooden trough is used, a ditch being dug to the pit. The crown block is put in place with the cat-line instead of the winch line and stringing up of the blocks is done in the derrick. Some drillers run the drilling line through the traveling block sheaves on the floor and the men in the derrick get the loops over the crown sheaves by pulling the sheaves out of the bearing boxes and placing the line in the sheave groove. The telling takes practically as long as the performance. Elevator links, elevators and such equipment are light and are put into working position by hand. Only one standpipe is used and it is generally light and easily installed; the double board also acts as a tong board and is generally a 6-inch by 8-inch timber in front, and three 3-inch by 12-inch boards filling up the remaining space instead of the 6-inch by 16-inch timbers used in deeper country.

The rathole is drilled with chain tongs by hand as the glacial drift which lies on top of the ground is soft, sometimes requiring supporting of the rathole pipe to keep it from sinking. Time required for this operation is from one-half an hour to one hour.

No Surface Pipe Set

Many operators do not set any surface pipe but drill directly to the pay using a small quantity of heavy mud to start the hole and then thinning up the drilling fluid after passing 400 feet. In some places there are gravel bars that require casing but it is not cemented; generally the pipe is suspended from clamps or an old piece of drilling line tied around the floor sills. Some of the weight of the drill stem is supported by the blocks until a depth of around 300 feet is reached but after that the drillers place all the weight on the bit. Many rigs do not use indicators, the driller's method of ascertaining the weight being the strain on the hook, and drilling line, and the drag of bit. Rotating speeds vary with the rig but in most cases the table is turned at the maximum speed for the rig; some high-speed rigs are rotated around 250 r.p.m., the slower rigs around 125 r.p.m. After 24 hours' drilling the well will be close to 1,000 feet with the second bit used in the hole. From three to five bits are required to drill the 1,340 feet of hole.

As little mud as possible is used because most wells in the Centralia area have water hauled to them by truck at the price of 10 cents per barrel and the cost of hauling mud away from the wells is the same. For this reason, wells are started with a little heavy mud from the last location, then thinned as much as possible with water. By the time the well is completed, the mud-pits will be full of heavy fluid and some mud will probably have been hauled off to keep it from spreading over the countryside.

The pay is cored and then the hole reamed to the casing point, after which the drill pipe is laid down. A fast rig and crew can put the drill pipe on the rack in less than one hour's time. No special elevators are used to run the casing and the pipe is run through the rotary table instead of a spider. About two hours' time is required to run the casing. As soon as the pipe is cemented, moving of the rotary equipment to the new location starts, regardless of the time of the day or night. If no new location is available, the rig is left standing until it comes time to move it.

Use of unit rotaries and derrick mounted on trucks, which were originally designed for the drilling of seismograph shot holes, has been introduced in Centralia. They drill smaller holes and require a little more time than the heavier rigs but they have a distinct advantage in having their own derrick, thus saving the operator the expense of erecting a drilling derrick. Very few operators are leaving derricks over the shallow wells, depending on the use of spudders or masts in case of clean-out work.

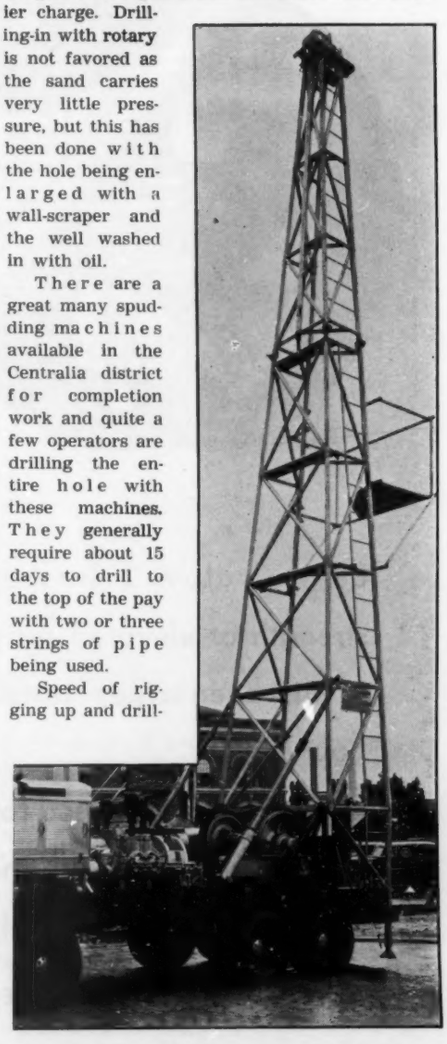
Probably the shortest time for drilling a rotary hole in the Centralia area was chalked up by John Pugh Drilling Co. on the No. 1 Geilhausen on the north half of Lot 8, Block 41, town of Centralia. They rigged up, drilled the 1,350 feet of hole, set pipe, and tore down in a total time of 72 hours. The net drilling time was 40 hours, with 7 hours more being required to core, lay down the drill pipe, and run and cement casing.

This well was drilled with a combination steam and mechanical rig. The drawworks is driven with a twin cylinder steam engine and the rotary by a direct drive from a 7-inch by 7½-inch, 3 cylinder, vertical steam engine. The pump used was a 14-inch by 7-inch power pump driven by an 8-cylinder V-type Diesel engine having 165 hp. rating.

Completion of the shallow wells with spudding machines requires from two days to two weeks, depending on the skill of the men, the equipment, procedure, and luck. Some operators drill in, test, and shoot with nitroglycerin, others eliminate the testing. Shooting is a dangerous procedure as there is only a short distance between the bottom of the well and the pipe and many of the wells have had the lower section of the pipe shot away or collapsed farther up the hole. The shots are sand tamped and range from 3 to 30 quarts with about 15 being the average. Some producers prefer to squib with 3 quarts and then shoot with a heavier charge. Drilling-in with rotary is not favored as the sand carries very little pressure, but this has been done with the hole being enlarged with a wall-scraper and the well washed in with oil.

There are a great many spudding machines available in the Centralia district for completion work and quite a few operators are drilling the entire hole with these machines. They generally require about 15 days to drill to the top of the pay with two or three strings of pipe being used.

Speed of rigging up and drill-



One of the portable rigs mounted on a 6-wheel trailer which is being used to drill oil wells in the shallow Illinois fields. Some are used without the tower inside derricks for drilling the 3,000-foot holes

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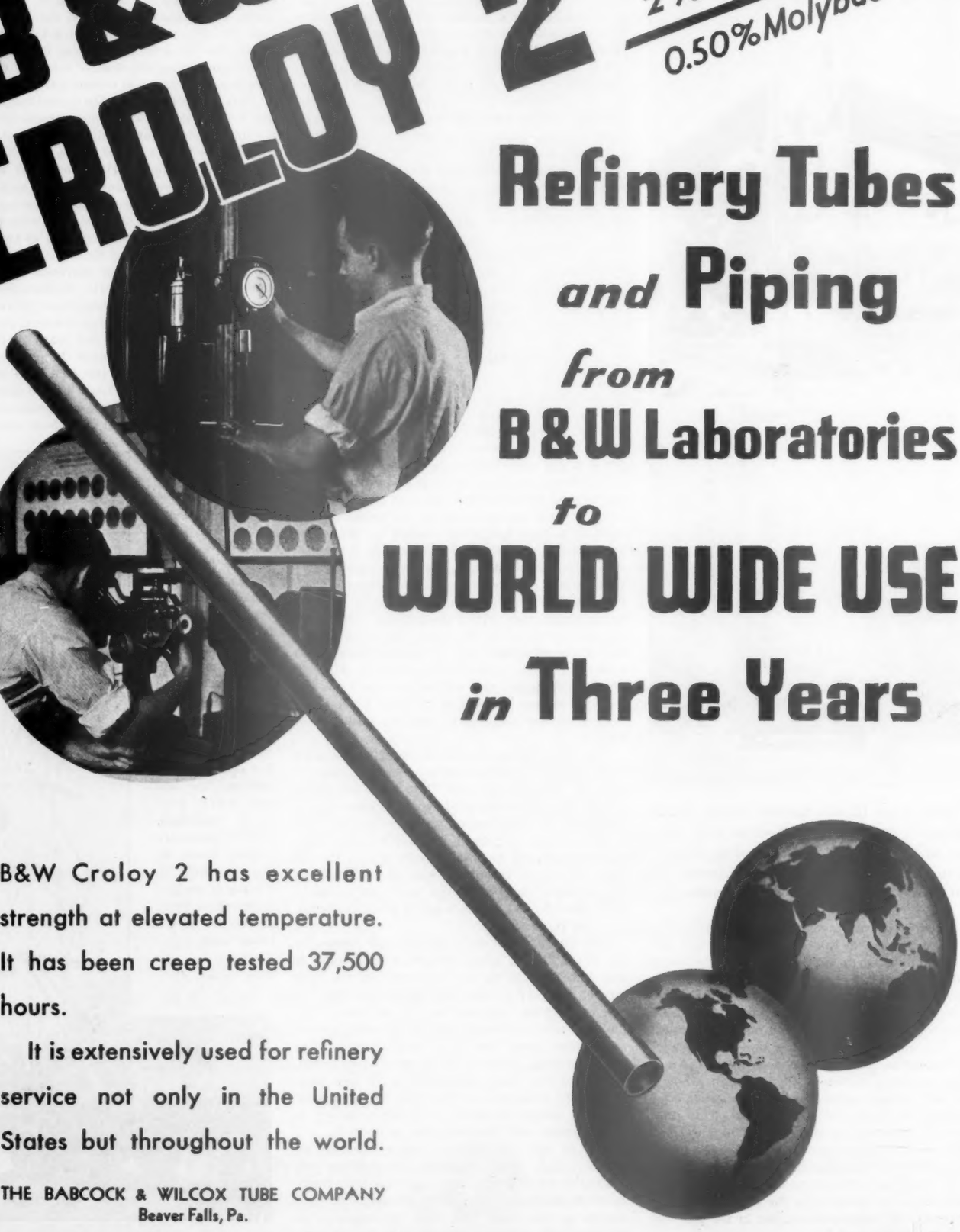

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ing is noticeable in deep fields of Illinois, also. Drilling contractors and crews know just what is needed to start drilling the surface hole and they let all unnecessary details go. However, the surface pipe for the 3,000-foot wells is cemented and the rigging-up completed while waiting for the cement to harden. A great many contractors have the surface pipe set within 36 hours after the location is turned over to them. Drilling procedure is similar to that in the shallow area, practically all the weight of the drill stem being carried on the bit, some drillers running as much as 28,000 pounds on the 8¾ inch bits. This is naturally injurious to drill pipe and quite a few fishing jobs result. However, there have been very few crooked holes drilled although some have had to temporarily abandon the extreme weight method until the hole ceased its tendency to drift. Light mud is carried until around 2,200 feet and then no more water is run into the pits. The main risk in the McClosky areas is the danger of getting the drill pipe stuck in the Cypress sand. The Bethel sand (Benoist) has also accounted for several strings of stuck pipe.

From two to six days are required to drill wells to the casing point in the shallow fields and from six to 15 days in the deeper areas. The rotary drillers and their crews around Noble, Olney, and Clay City also get more time on a well because most of these holes are completed with rotary tools while the shallow sand area wells are completed with spudders.

The constant rush to get these wells completed also has its dark side because of the light equipment used and the speed with which it is put together. Few derricks stay vertical during the drilling of a well, particularly if the season is wet. It would be practically impossible to dig foundations deep enough to get a solid footing and the derricks will lean in one direction while drilling and the opposite direction when the pipe is laying against the double board. There have been more derricks pulled in than the depth of the wells and the loads to which derricks are subjected would warrant. A great many rigs are operating without the accepted chain guards and installation of equipment is frequently made with more attention to speed than safety. Traveling blocks are left unguarded and some crews omit anchoring of overhead equipment. Drawworks are frequently not securely anchored, either head-boards or under the floor tie-downs being omitted. Blow-out preventors are used mostly by the larger companies.

Little provision is made for the comfort of the crew and sheds for the equipment are lacking in a great many cases, on some wells they are omitted altogether.

Winter Activity

During the winter of 1937-38, drilling activity hit a slump because contractors were unwilling to take contracts on which they might have to pay an enormous trucking bill. Some companies assumed the cost of moving over a certain amount but this was stopped after one company had to pay approximately 10 per cent of the contract price to move a rig on the location. Late in the winter, the use of board mats around the rigs was started and large amounts of native oak lumber were used to build roads into the locations. Most of this lumber is salvageable but for a time the supply was almost insufficient to meet the demand. Spring, and more favorable weather, eased the situation.

The experience gained last year will probably help the operators in solving this winter's problems. There will probably be a curtailment of the drilling campaign during the more adverse weather and operators of forced locations will probably have board roads built instead of trying to work trucks in the mud. After a freeze and a thaw the upper crust becomes soft and spongy and many trucks were extensively damaged last year when they got stuck and had to be hauled out. Contracts which take weather conditions into consideration will probably find more favor among operators and contractors and some lease contracts are being made with this provision.

National Bureau of Standards Issues New Circular on Bottled Gases

The distribution and utilization of the hydrocarbon fuels which can be conveniently and economically transported and stored as liquids under pressure but used as gases is a relatively new and rapidly growing industry, according to the National Bureau of Standards, Department of Commerce.

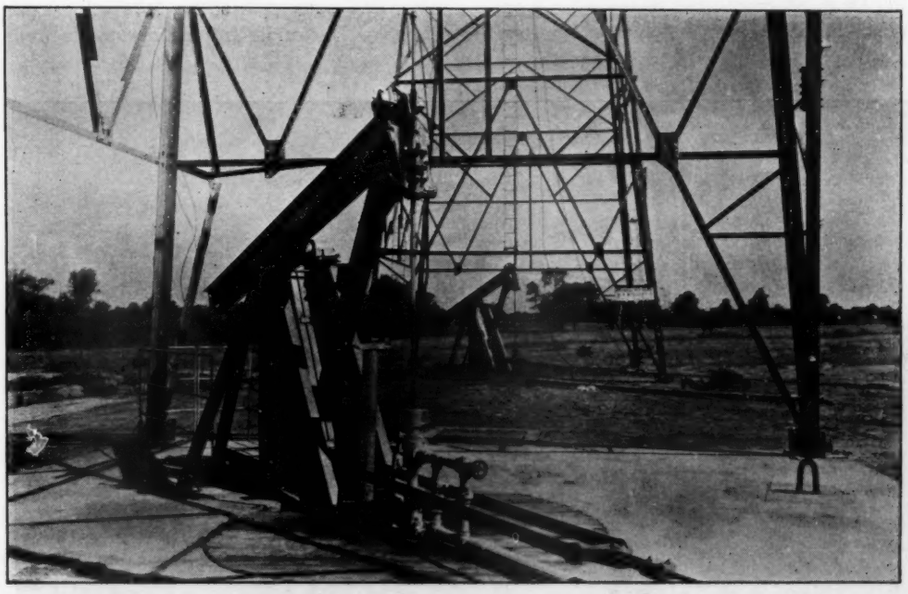
These fuels are mainly composed of the chemical substances propane and butane, but they are sold under a host of trade names, it was stated.

A "letter-circular," written to answer the large number of inquiries about these fuels received by the National Bureau of Standards has been revised and printed as Circular 0420 of that bureau. It describes the properties, source, and methods of distributing the gases.

There is a brief discussion of methods of storage and utilization, including the cost and uniformity of service, particularly with domestic appliances. Domestic systems using hydrocarbons which will boil above ordinary household temperatures are included in the discussion. Leading distributors and trade names are listed.

Copies of this publication, "Propane, Butane, and Related Fuels," are obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 5 cents each.

SAFETY- Plates on Large Pumping Jack



The death or injury of a man often suggests safety devices that will prevent a recurrence of the same type of accident to some other employe. It also forcefully calls attention to other hazards on the lease and suggests the safeguards necessary to protect the men. This is the case in the photograph above.

The accident occurred in the Fitts field near Ada, Okla. A pumper was cleaning a jack similar to the one in the picture and his head was crushed by the V-frame as it passed back and forth through the jack frame. Just how the accident happened is unknown as the pumper was alone at the time and was found dead. To avoid this happening again the company immediately designed a guard which prevents a worker from getting any part of his body between the moving and stationary members of the jack.

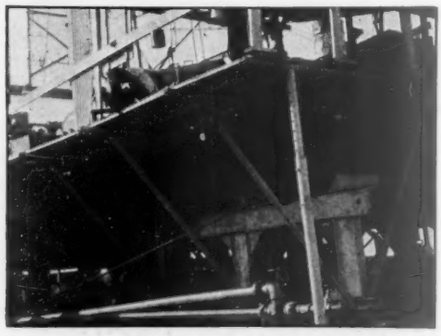
This guard, made of sheet steel, closes up the entire front part of the jack frame as the picture shows. The possibility of a worker being injured by falling into the jack is therefore removed. But the efforts to prevent accidents did not stop with the one guard for it is noticed that the stroke of the jack was such that the counter-balance end of the beam came low enough to strike a man's head. A fence of old sucker-rods welded together was installed to keep employes from walking under the beam while it was in motion. The fence can be easily removed if necessary.

The entire well is designed to prevent injury to employes and anyone who might walk up to look at the jack. Notice that the floor is of smooth concrete with the cellar opening completely covered with strong boards. There are no holes to be stepped into or drop a wrench through. The entrance to the cellar is also covered to prevent anyone falling into the stairway or going down into the cellar to satisfy their curiosity.

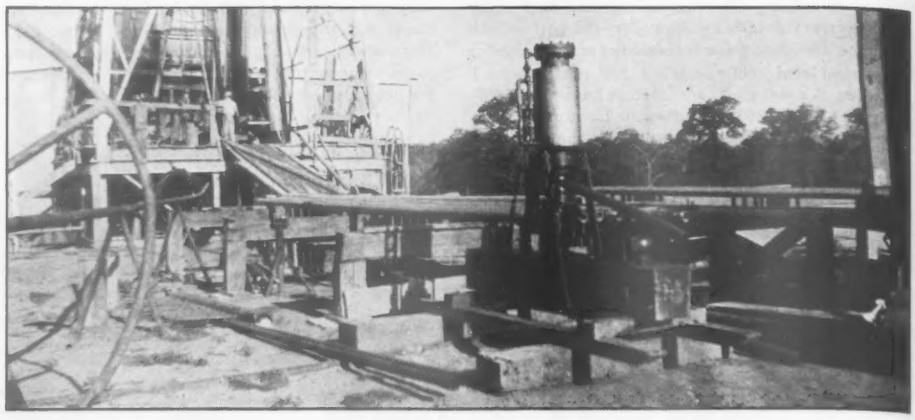
OPERATING IDEAS

Scaffold for Engine Platform

The introduction of substructure derricks required that considerable lumber be used for building the scaffold for the engine shed

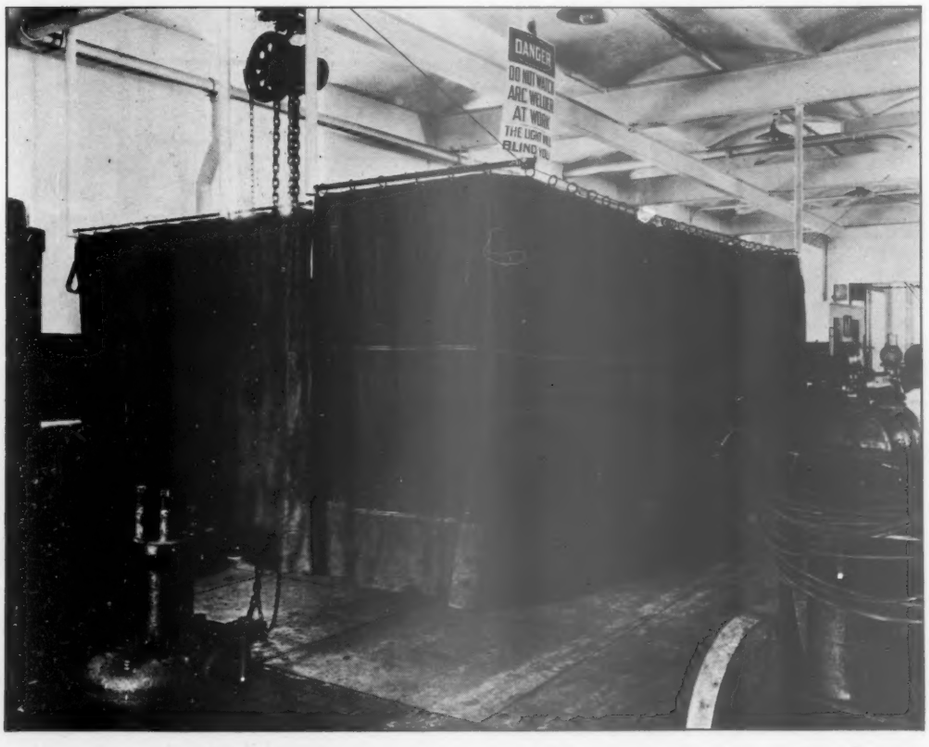


floor. These boards were generally junked at the completion of the well. To avoid this expense the drilling superintendent for one of the large oil companies designed this engine shed scaffold from 3-inch pipe. The end legs are made from 3-inch pipe with 2½-inch inside. Perforations are made in the inner and outer pipe so the legs will be adjustable. The angle frames are made from half sections of 3-inch pipe welded together. The bottom brace rests on the engine foundation and the floor sill rests on the engine skid. A 2 by 4 is cut down and bolted to the half pipe for nailing the floor boards. Photo taken in the Fox field, Oklahoma.



Drill Pipe Straightener Installed as Part of Rig Equipment

On wells located long distances from pipe shops, drill pipe often gets crooked. This operator had the drill pipe stuck and knew when he got it out of the hole some of it would not be in condition to run without being straightened. He rigged up his pipe rack and installed the pipe straightener shown and the drilling crews can straighten the pipe on the job. This eliminates the expense and delay of hauling drill pipe to the shop

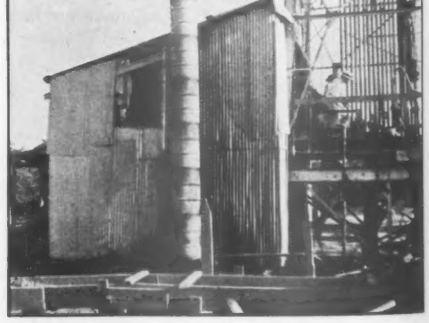


Curtain Protects Workmen's Eyes

Rays from electric arc welding machines have a very injurious effect on workmen's eyes and though the men do not look at these operations directly, the reflected rays from the welder's arc cause impairment of vision. The Sinclair Prairie company operates this shop where the welding equipment was in the room with the lathes and other machines. To protect the eyes of the machine men, they installed this heavy curtain to prevent the light rays being spread over the room. The curtain can be removed when the welders are not working.

Combination Stack and Muffler

When Diesel engines are located close to the floor as they are on a mechanical drilling rig, the noise from the exhaust frequently becomes tiresome and injurious to the ears. When the exhaust faces to the south of the rig, the fumes are blown back over the derrick floor. To get away from this unpleasant odor and noise, this drilling crew made a smoke stack from six oil drums, screwed a nipple in the L on the end of the exhaust and packed mud around the bottom of the drums. All gas was then sent out the top and the large drums muffled the sound. A small hole in the bottom permits any exhaust fluid to escape. This picture was taken on one of the large Diesel rigs in the Fox field of southern Oklahoma.



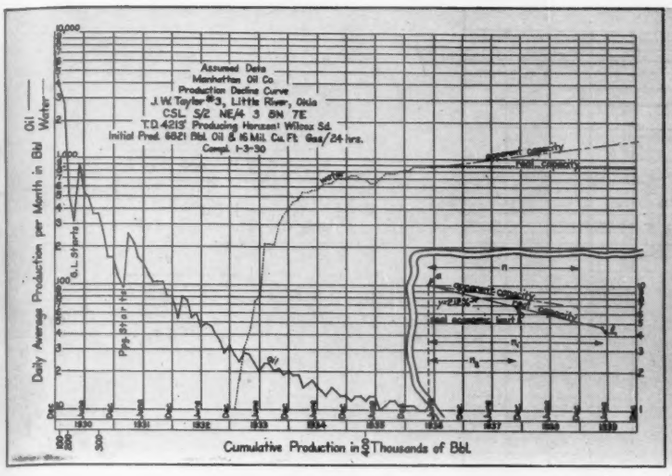

Assumed Data
Manhattan Oil Co
Production Decline Curve
J.W. Taylor #3, Little River, Okla
CSL S/2 NE/4 3 8N 7E
T.D. 4215' Producing Horizon: Wilcox Sd.
Initial Prod. 6821 Bbl. Oil & 16 Mil. Cu. Ft. Gas/24 hrs.
Compl. 1-3-30
Daily Average Production per Month in Bbl Oil ——— Water ———
Cumulative Production in Thousands of Bbl.

Fig. 1—Production decline curve

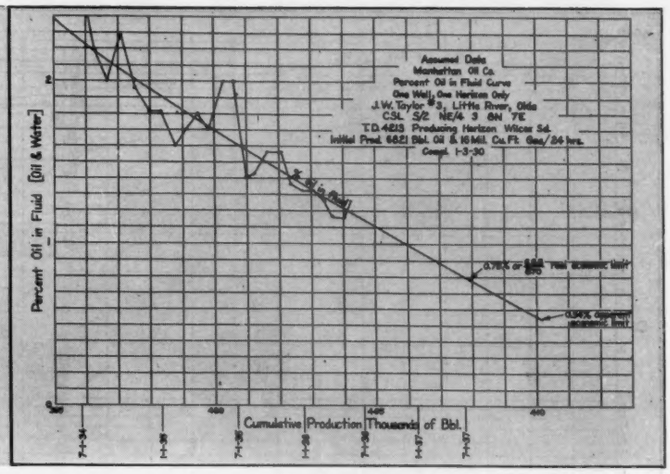

Assumed Data
Manhattan Oil Co.
Percent Oil in Fluid Curve
One Well, One Horizon Only
J.W. Taylor #3, Little River, Okla
CSL S/2 NE/4 3 8N 7E
T.D. 4213 Producing Horizon Wilcox Sd.
Initial Prod. 6821 Bbl. Oil & 16 Mil. Cu. Ft. Gas/24 hrs.
Compl. 1-3-30
Percent Oil in Fluid [Oil & Water]
Cumulative Production Thousands of Bbl.

Fig. 2—Per cent oil in fluid curve

Decline Curve Analysis

By HENRY EMMETT GROSS
University of Oklahoma

Individual well decline curves are not obsolete as many people would have us believe. It is true that proration restrictions have modified the use of decline curves, yet these curves remain as one of the most important methods of arriving at reserves and individual well-profitability. Also, there are still some flush fields in the United States that are being produced unrestrictedly. Decline curve analysis should apply to these. There are also conditions under which decline curve analysis of prorated wells is valuable. Finally, the majority of old wells of the country are not producing under proration. It is to this class of wells that decline curve analysis applies most accurately. Thus in the Seminole field of Oklahoma for a lease that no longer is paying, individual well-profitability analysis may find the well or wells that no longer are profitable, and if they are taken off production the lease again may be put on a paying basis. Or should all of the wells be unprofitable, the lease can be taken off production.

The production cost for any individual well of a large corporation should be available to its officers within a few hours. In recent years the larger corporations have installed ingenious coding machines. These machines automatically classify and tabulate all expenditures according to the established accounts. However, to do this it is necessary for a tabulator to prepare perforated cards. These cards then are run through the accounting machine for analysis.

The system of one large company is given in Table 1.

It may be noted that by the above system the executive has his finger on all expenditures. He may know exactly how many second-hand gate valves and also how many new ones were used in each district per month or per year. In like manner, he may know precisely how much each individual well on any lease costs to operate for a specified unit of time.

Finally, it may be said that pay rolls or sales are segregated or consolidated with versatility and facility into any combination for statistical purposes.

This infirmation is tabulated in code by a number system, not for secrecy, but because of the fundamental nature of the coding machine. Experts familiar with coding and decoding accounts tabulated by coding machines may in a half day segregate a year or more of the individual well cost figures requested. From this information it may be seen whether or not the well is producing sufficient oil to justify its continued operation; or if the well is in need of a repair job, the evaluation of reserves may show if the work is justified.

Types of Decline Curves Considered

In this paper two types of decline curves are considered, and it is recommended that both be applied to every analysis. The first curve is the well-known semilogarithmic decline curve having the rate of production plotted on the logarithmic scale and the time on the horizontal scale. The other curve is the per cent oil in the fluid versus cumulative production curve, and it is plotted on Cartesian coordinate paper.

To illustrate these curves, a hypothetical well is used and the production statistics may be found in Table 2. It should be observed that water statistics are just as important as oil for curve analysis. The production statistics in Table 2 have been plotted on the semilogarithmic decline curve, Figure 1, and the per cent oil in the fluid curve, Figure 2. The most conservative reserve indicated by these graphs should be used. The semilogarithmic decline curve does not apply to prorated wells, and the per cent oil in the fluid curve does not apply to wells that make very little water. Wells on a strong water drive that are gradually going to water may be analyzed by the per cent oil in the fluid curve, and this method is not influenced by proration. Mechanical corrections and changes in production methods should be indicated on the curves.

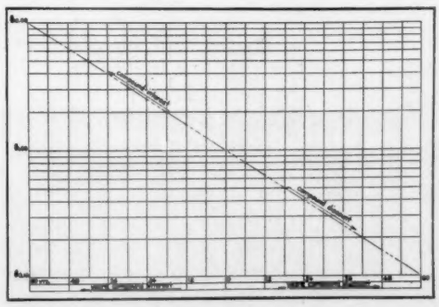


Fig. 3—Compound interest and compound discount on semilogarithmic base

Lay off 10-year, two-cycle paper into four equal quadrants. With the vertical dividing line as the origin and considering months as years to the right and to the left, and with the horizontal dividing line as unity, plot compound discount to the right and compound interest to the left. The resulting straight line as illustrated in Figure 3 shows that any straight-line decline or expansion on semilogarithmic paper must follow the compound interest-compound discount law.

Figure 4 is a chart drawn upon transparent semilogarithmic paper on the same scale as on the heavy semilogarithmic paper used for decline curves. Figure 4 was constructed by using a compound discount table that was worked out on an annual basis for 100 years. Instead of plotting years on this graph, the annual figures of the compound discount table have been plotted as months. For example, the compound discount in the table for 60 years would be plotted on this graph at 60 months, or five years, and thus the 2 per cent line on the graph indicates 2 per cent decline per month. The decline per month for the other lines is indicated on the graph. If a 50-graduations-to-the-inch engineer's scale is placed on the graph as indicated, the 1-inch marks each intercept an even per cent compound discount line. By this means it is possible to graduate the graph down to one-hundredth of 1 per cent decline per month. It is possible to superimpose a graph drawn on transparent paper such as illustrated in Figure 4 over the decline

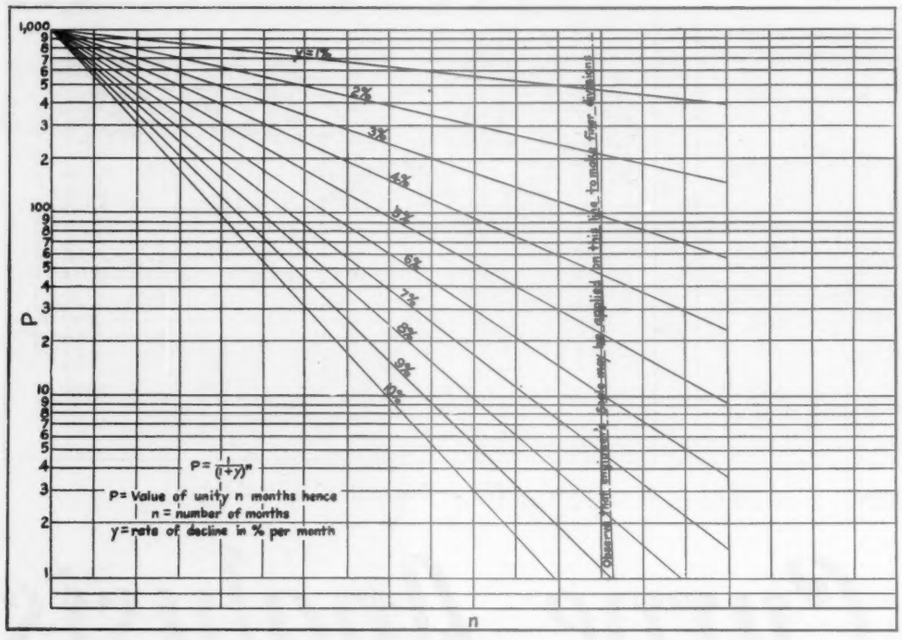


Fig. 4—Chart for determining per cent decline per month from extrapolated portion of a semilogarithmic decline curve of a time or horizontal scale similar to this chart

curve and directly determine the per cent decline per month. This is a rapid and accurate means for determining this characteristic, which is useful in analyzing the reserves on a semilogarithmic decline curve. However, a 10-year, three-cycle chart must be used on a 10-year, three-cycle decline curve, and for other variations of logarithmic and Cartesian scales the charts must be chosen properly to suit the decline curves.

Determining the economic limit for semilogarithmic decline curves:

$$A = B \times C \times D \times E \times F \quad \text{or} \quad B = \frac{A}{C \times D \times E \times F}$$

Actual illustration =

$$B = \frac{\$200 \text{ per month}}{30.4 \times 1.15 \times .875 \times .95} = 6.88 \text{ bbls. per day}$$

- A = total monthly operating cost (average of past year)
- B = economic limit in barrels of oil per day
- C = days in an average month = 30.4
- D = market price of crude per barrel
- E = 1-royalty
- F = 1-gross production tax
- G = water production in barrels per day at the economic limit
- H = per cent oil in fluid at economic limit

The economic limit for a per cent oil in the fluid curve.

$$H = \frac{B}{B+G} \times 100$$

The total monthly operating cost (A) as used in determining the economic limit above is obtained precisely by having a coding machine expert determine this information.

Method for Computing Curves From the Extrapolated Semilogarithmic Decline Curve

By employing geometric progressions[1] it is possible to derive useful formulae for computing reserves from semilogarithmic decline curves.

- a = 304 bbl./mo. at present
- l = 209 bbl./mo. at economic limit
- y = per cent decline per month = 1.9 per cent
- n = number of months' future life
- x = production for a month as number 1, 2, 3, n-1, or n, whichever month is desired
- s = future production

(For the above data see Figure 1.)

$$x = \frac{a}{(1+y)^n} \quad \text{(compound discount formula)}$$

$$s = \frac{a}{(1+y)} + \frac{a}{(1+y)^2} + \cdots\cdots \frac{a}{(1+y)^n}$$

$$s = \frac{1}{(1+y)}\left[a + \frac{a}{(1+y)} + \cdots\cdots \frac{a}{(1+y)^{n-1}}\right]$$

$$\text{(A)} \quad \frac{s}{\frac{1}{(1+y)}} = a + \frac{a}{(1+y)} \cdots\cdots + \frac{a}{(1+y)^{n-1}}$$

Multiply (A) through by $\frac{1}{(1+y)}$

$$\text{(B)} \quad \frac{\frac{1}{(1+y)}s}{\frac{1}{(1+y)}} = \frac{a}{(1+y)} + \frac{a}{(1+y)^2} \cdots + \frac{a}{(1+y)^n}$$

Subtract (B) from (A).

$$\frac{s - \frac{1}{(1+y)}s}{\frac{1}{(1+y)}} = a - \frac{a}{(1+y)^n}$$

$$\frac{s\left[1 - \frac{1}{(1+y)}\right]}{\frac{1}{(1+y)}} = a - \frac{a}{(1+y)^n}$$

$$\text{(C)} \quad s = \frac{\left[\frac{1}{(1+y)}\right]\left[a - \frac{a}{(1+y)^n}\right]}{\left[1 - \frac{1}{(1+y)}\right]}$$

$$l = \frac{a}{(1+y)^n} \quad \text{(compound discount formula)}$$

$$\text{(D)} \quad s = \frac{\left[\frac{1}{1+y}\right][a-l]}{\left[1 - \frac{1}{1+y}\right]} = \frac{\left[\frac{1}{1+y}\right][a-l]}{\frac{1+y}{1+y} - \frac{1}{1+y}} = \frac{a-l}{y}$$

$$s = \frac{a-l}{y} \qquad y = \frac{a-l}{s}$$

$$1 + y = 1 + \frac{a-l}{s} = \frac{s+a-l}{s}$$

$$\frac{1}{1+y} = \frac{s}{s+a-l}$$

$$s = \frac{\left[\frac{s}{s+a-l}\right]\left[a - \frac{a s^n}{(s+a-l)^n}\right]}{\left[1 - \frac{s}{s+a-l}\right]}$$

$$s\left[1 - \frac{s}{s+a-l}\right] = \left[\frac{s}{s+a-l}\right]\left[a - \frac{as^n}{(s+a-l)^n}\right]$$

$$\frac{\left[1 - \frac{s}{s+a-l}\right]}{\frac{1}{s+a-l}} = s + a - l\left[\frac{s+a-l-s}{s+a-l}\right]$$

$$a - l = a - \frac{as^n}{(s+a-l)^n}$$

$$l = \frac{as^n}{(s+a-l)^n}$$

$$n \log (s+a-l) = n \log s + \log a - \log l$$

$$n \log (s+a-l) - n \log s = \log a - \log l$$

$$\text{(E)} \quad n = \frac{\log a - \log l}{\log (s+a-l) - \log s} = \frac{\log (a/l)}{\log\left[\frac{(s+a-l)}{s}\right]}$$

$$n = \frac{\log (a/l)}{\log\left[\frac{(s+a-l)}{s}\right]} = \frac{\log (a/l)}{\log (1+y)}$$

$$\log\left[\frac{(s+a-l)}{s}\right] = \left[\frac{\log (a/l)}{n}\right]$$

$$\frac{s+a-l}{s} = \log^{-1}\left[\frac{\log (a/l)}{n}\right]$$

$$\frac{s}{s} + \frac{a-l}{s} = \log^{-1}\left[\frac{\log (a/l)}{n}\right]$$

$$\frac{a-l}{s} = -1 + \log^{-1}\left[\frac{\log (a/l)}{n}\right]$$

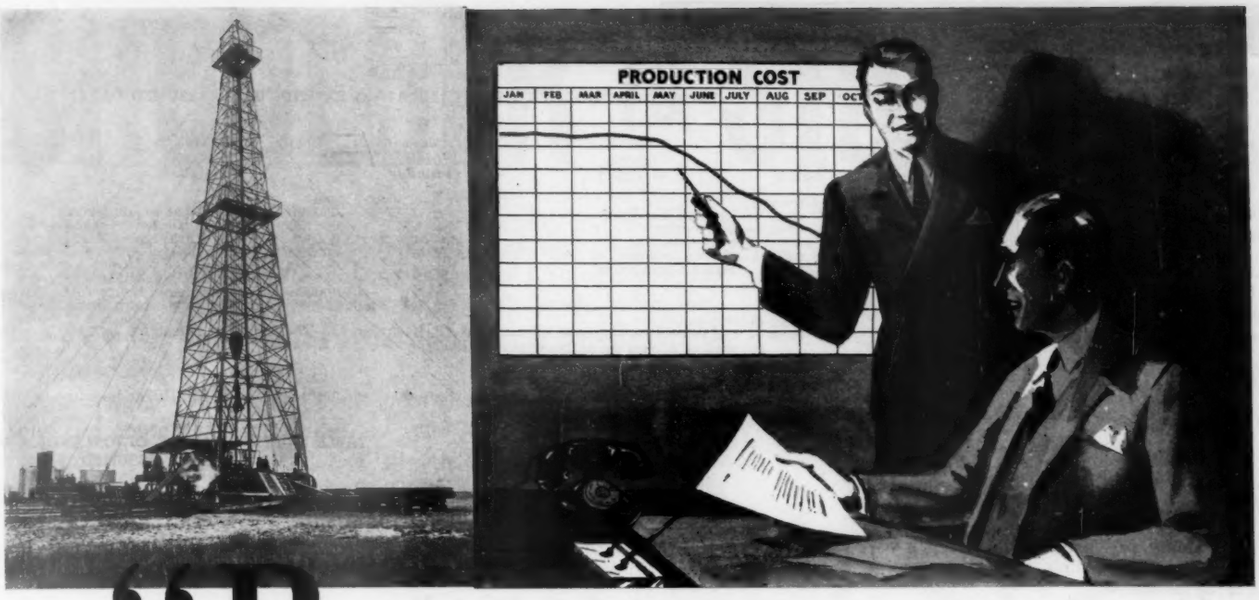
$$\frac{l-a}{s} = 1 - \log^{-1}\left[\frac{\log (a/l)}{n}\right]$$

$$\text{(F)} \quad s = \frac{l-a}{1 - \log^{-1}\left[\frac{\log (a/l)}{n}\right]} = \frac{l-a}{1-(a/l)^{1/n}}$$

The Forms (C), (D), (E), and (F) in the preceding derivation may be used to determine any type of problem on semilogarithmic decline curves. The summation Formulas (C), (D), and (F) may be used for solving for the reserve accurately. This may be found in the first case, (C), if we have the present monthly production and the rate of decline per month and the number of months of future life. In the second case, the Equation (D) involves the present monthly production, the monthly production at the economic limit and the rate of decline per month. The third case, (F), involves the present monthly production, the monthly production at the economic limit and the number of months of future life. Form (E) may be used to determine the number of months of future life.

Typical Evaluation Problem

1. Draw a production decline curve on three-cycle, 10-year semilogarithmic paper, using the same scale (average daily production per month)



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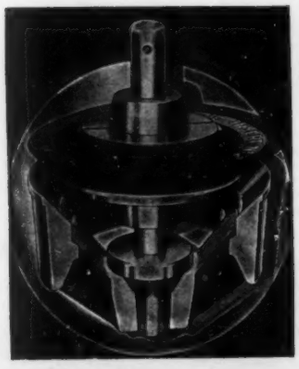

MISSION Silver Top VALVE

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for both oil and water on the ordinate. Use data in Table 2.

2. Plot a per cent oil in fluid versus cumulative curve from the same data. (See Figures 1 and 2.)

In computing reserves from the extrapolated semilogarithmic decline curve, the economic limit in barrels per day =

$$\frac{\$200 \text{ per month}}{30.4 \times 1.15 \times .875 \times .95} = 6.88 \text{ bbls. per day.}$$

The above is the economic limit of this well, and from the production decline curve it is seen that the future life of this well is 31 months, or until January 1, 1939.

$$\text{Future production} = s = \frac{l - a}{1 - \log^{-1}\left[\frac{\log (a/l)}{n}\right]}$$

Where in this problem:

a = 304 bbls. per month or 10 bbls. per day at the present time
l = 209 bbls. per month or 6.88 bbls. per day at economic limit
n = 31 months
30.4 = days in average month

$$\text{Future prod.} = s = \frac{209 - 304}{1 - \log^{-1}\left[\frac{\log (304/209)}{31}\right]}$$

$$= \frac{-95}{1 - \log^{-1}\left[\frac{.162727}{31}\right]}$$

$$= \frac{-95}{1 - \log^{-1}(.00525)}$$

$$= \frac{-95}{1 - 1.01216}$$

$$= \frac{-95}{-.01216} = 7{,}810 \text{ bbls.}$$

The apparent reserves = 7,810 bbls.

Calculus Method

For example, consider a well that is now making 100 bbls. per day and is declining semilogarithmetically so that it will make 10 bbls. per day in 78 months hence. The following analysis by calculus integration shows that the reserve for the ensuing 78 months will be 92,600 bbls.

$$z = mx + b$$
$$\log y = mx + b = (mx + b)1$$
$$= (mx + b)\log_{10} 10$$
$$= mx \log_{10} 10 + b$$
$$\log^{-1}(\log y - b) = 10^{mx}$$
$$\text{Also } y = 10^{mx+b}$$
$$\log y = mx + b$$
$$\log_{10} 100 = m(0) + b; \text{ when } y = 100 \text{ and } x = 0$$
$$b = 2$$
$$\log_{10} 10 = m78 + 2; \text{ when } y = 10 \text{ and } x = 78$$
$$1 = 78m + 2$$
$$78m = -1$$
$$m = -1/78$$

Procedure a:

$$\log y = \frac{-1}{78}x + 2$$

Procedure a:

$$y = 10^{(-x/78)+2}$$

Procedure b:

$$\frac{y}{100} = 10^{-x/78}$$

Procedure b:

$$y = 100 \cdot 10^{-x/78}$$

Procedure a:

$$s = \int_0^{78} y\,dx = -78\int_0^{78} \frac{10^{(-x/78)+2}}{-78}\,dx$$

$$= \frac{-78 \cdot 10^{(-x/78)+2}}{\log_{10} 10} + c\Big]_0^{78}$$

$$= \frac{-78 \cdot 10^{(-x/78)+2}}{2.3026} + c\Big]_0^{78}$$

Procedure b:

$$-78\int_0^{78} \frac{100 \cdot 10^{-x/78}}{-78}\,dx = \frac{-78 \cdot 100 \cdot 10^{-x/78}}{\log_e 10} + c\Big]_0^{78}$$

$$= \frac{-78 \cdot 100 \cdot 10^{-x/78}}{2.3026} + c\Big]_0^{78}$$

Procedure b:

$$s = \left[\frac{-78 \cdot 100 \cdot 10^{-78/78}}{2.3026} + c\right] - \left[\frac{-78 \cdot 100 \cdot 10^{-0/78}}{2.3026} + c\right]$$

$$= \left[\frac{-78 \cdot 100 \cdot 10^{-1}}{2.3026}\right] - \left[\frac{-78 \cdot 100 \cdot 10^{0}}{2.3026}\right]$$

$$= \frac{-78 \cdot 100}{2.3026}[.1 - 1] = \frac{7{,}800 \cdot 0.9}{2.3026} = 3{,}050$$

But since there are 30.4 days in the average month, 30.4 × 3,050 = 92,600 bbls.

By using the simpler algebraic analysis shown in Form (F), the reserve for the same conditions is found to be 91,000 bbls., which is a good check.

$$s = \frac{l - a^*}{1 - (a/l)^{1/78}} = \frac{(10-100)30.4}{1 - (100/10)^{1/78}\dagger} = \frac{(10-100)30.4}{1 - 1.02996}$$

*See Form F.

$$= \frac{90 \cdot 30.4}{.02996} = 91{,}400 \text{ bbls.}$$

† $\log [10^{1/78}] = 1/78 \log 10 = 1/78 = .0128205$

Now if we consider the conditions set forth above, where:

a = 304 bbls. per month or 10 bbls. per day at the present time,
l = 209 bbls. per month or 6.88 bbls. per day at economic limit,
n = 31 months,
30.4 = days in average month,

the calculus integration shows that the reserve is 7,870 bbls. Referring to the algebraic analysis, the reserve is 7,810 bbls., which is a good check.

$$\log_{10} 10 = m(0) + b; \text{ when } y = 10$$
$$b = 1$$
$$\log_{10} 6.88 = m31 + 1; \text{ when } y = 6.88$$
$$.837588 = 31m + 1$$
$$31m = -1 + .837588$$
$$m = \frac{-.162412}{31} = -.00523$$
$$y/10 = 10^{-.00523x} \qquad y = 10 \cdot 10^{-.00523x}$$
$$s = \frac{10 \cdot 10^{-.00523x31}}{2.3026} \quad \frac{-10 \cdot 10^{-.00523x0}}{2.3026}$$
$$= \frac{-10}{.00523 \cdot 2.3026}\left[\frac{1}{1.452} - 1\right]$$
$$= \frac{-10}{.00523 \cdot 2.3026}[.688 - 1]$$

(Continued on Next Page)

TABLE 1—METHOD USED FOR TABULATING EXPENDITURES (ASSUMED DATA)

A Account	B Lease	C Special description	D Description	E Expenditure
0132 (4 digits)	060790 (6 digits)	0180 (4 digits)	210 (3 digits)	$0.07

A. Accounts
0131 = lease oil handling
0132 = oil treating
0501 = water station
0279 = district charge, as say either North or South Little River

B. Lease
060000 = Little River headquarters
060700 = North Little River headquarters
060900 = South Little River headquarters
060789 = Brown lease, North Little River
060790 = Beckman lease, North Little River
060791 = Day lease, North Little River
060989 = Borman lease, South Little River
060990 = James lease, South Little River

C. Special description
0180 = the 18 portion refers to the location, i.e. Beckman 14. The figure to the right, i.e. 0180, describes the well of a location as Beckman 14, Beckman 14A, or Beckman 14W.

D. Description—210 = warehouse transfers

E. Expenditure—$0.07 = the attributed or real value of every item or piece of equipment installed or utilized.

TABLE 2—PERFORMANCE OF OKLAHOMA WELL ALL DATA ASSUMED

Location: CSL S half NE Section 31-8n-7e, Little River, Oklahoma.
Initial production, 6,821 bbls. oil in 24 hours.
Total depth, 4,213 feet.
Producing horizon: Wilcox sand.
Gas production, 15,000,000 cu. ft. in 24 hours.
Completed January 3, 1930.

PRODUCTION STATISTICS

Average Daily—Oil and Water—per Month, by Months

	Oil	Cumulative oil	Water
1930—			
January	3,750	116,000	...
February (flow)	2,700	191,600	...
March	530	208,100	...
April	315	217,550	...
May (gas lift)	910	245,750	...
June	535	261,850	...
July	490	277,050	...
August	360	288,250	...
September	360	299,050	...
October	270	307,450	...
November	165	312,400	...
December	165	317,500	...
1931—			
January	132	321,600	...
February	94	324,230	...
March (pumping)	255	332,130	...
April	210	338,430	...
May	165	343,530	...
June	150	348,030	...
July	120	351,750	...
August	105	355,000	...
September	104	358,120	...
October	105	361,370	...
November	78	363,710	...
December	78	366,130	...
1932—			
January	54	367,805	...
February	80	370,125	...
March	75	372,455	...
April	54	374,075	...
May	61	375,965	...
June	45	377,315	...
July	49	378,835	...
August	46	380,265	...
September	40	381,465	...
October	35	382,555	...
November	28	383,425	...
December	33	384,455	...
1933—			
January	27	385,295	10
February	24	385,965	17
March	28	386,853	30
April	27	387,645	44
May	23	388,355	75
June	20	388,955	81
July	23	389,665	210
August	23	390,375	210
September	20	390,975	210
October	21	391,625	300
November	19	392,195	350
December	20	392,815	400
1934—			
January	19	393,405	450
February	19	393,935	470
March	15	394,400	540
April	16	394,800	540
May	17	395,407	560
June	15	395,857	560
July	14	396,292	620
August	13	396,695	630
September	15	397,145	640
October	14	397,580	700
November	13	397,970	700
December	13	398,375	700
1935—			
January	12	398,745	740
February	13	399,109	750
March	13	399,512	700
April	12	399,872	700
May	13	400,275	640
June	13	400,665	640
July	10	400,975	700
August	11	401,316	760
September	12	401,676	760
October	12	402,048	760
November	11	402,378	800
December	11	402,720	820
1936—			
January	11	403,062	820
February	11	403,381	860
March	10	403,691	850
April	10	403,991	860
May	11	404,333	870

SHOULDER TO SHOULDER

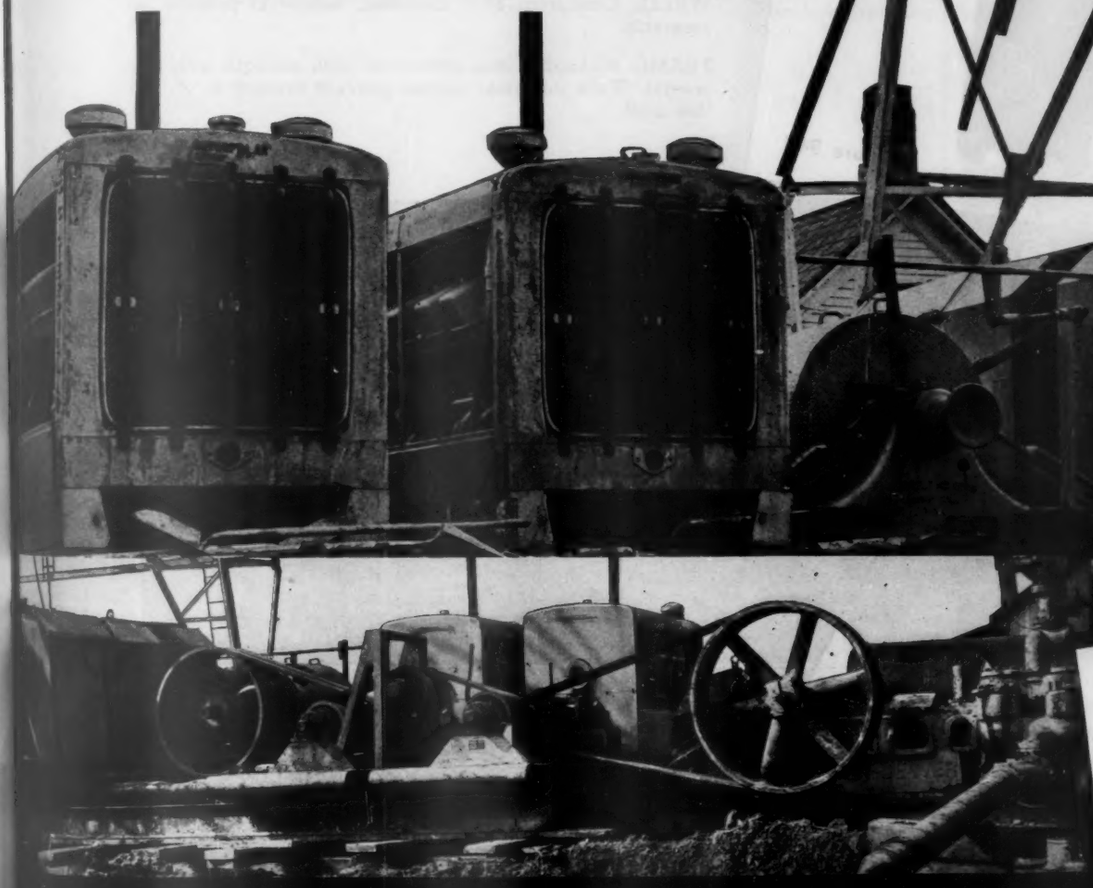
Like a pair of twin gladiators, sturdy and sure of themselves, these two "Caterpillar" D17000 Diesel Engines present a striking example of "teamwork" in powering oil-drilling equipment. Compounded, they drive a Gardner-Denver mud pump and a Bridgeport Machine Co. rig.

These engines are called upon for 24-hour-a-day operation—taking only sufficient time-out for normal check-up and servicing. They are conservatively rated—and when the going is tough, and they have to produce every bit of rated horsepower, you can count on them to see you through. To date of report, each engine had operated approximately 1400 hours—with only minor repairs on one engine.

If you want the latest, most dependable power in the oil industry, investigate "Caterpillar" Diesels. And if you want to reduce to a minimum the element of time loss due to necessary maintenance and replacements, consider the fact that "Caterpillar" parts-and-service facilities are never more than a few hours—sometimes not more than a few minutes—from any U. S. oil field, pipe line or refinery.

Leading manufacturers of oil-field and pipe-line equipment power their products with "Caterpillar" Diesel Engines. NINE SIZES — 32 to 160 horsepower.

CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS



Rear view of the "Caterpillar" Diesel Engines pictured above — showing dual drive and belt connections. Operation, near Centralia, Illinois. Owner, T. T. Eason & Co., Enid, Oklahoma.

CATERPILLAR DIESEL ENGINES

REG. U.S. PAT. OFF.

Announcing "JARCO" PULL ROD CARRIER

OIL TWICE YEARLY!

Figure 940

PRICE $2.50 AT TULSA

Features of The New "Jarco" Pull Rod Carrier

OIL RESERVOIR: Unscrew lubrication plug and fill oil reservoir with 1/6 pint of SAE-10. This is sufficient oil to last at least six months!

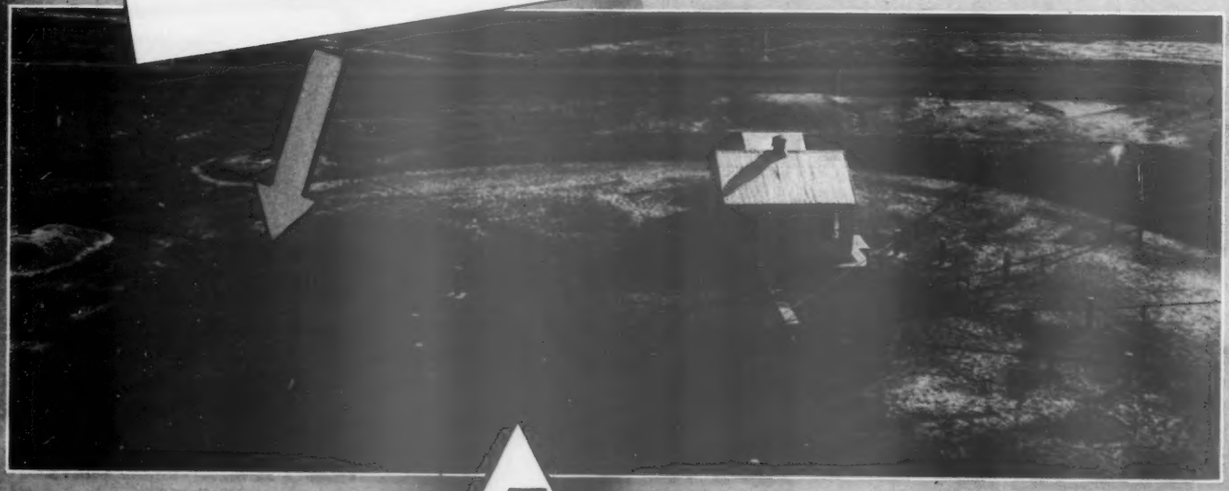
POROUS BUSHING: From the reservoir the oil feeds slowly through the patented porous Bronze Bushing to the shaft.

FELT RETAINERS: Prevent rain and dust from reaching bearing.

STEEL SHAFT: Large, 1¼" diameter steel tubular shaft, ground finish, resting on bosses cast in frame, and clamped in place by ⅜" bolt.

WHEEL: Cast iron, 3¾" diameter, hollow to provide oil reservoir.

FRAME: Malleable iron, ribbed for high strength with low weight. Webs on lower section prevent twisting in 2" rod line post.



Dynamometer tests prove that conventional wooden dowel heads often absorb as much as 50% of the power required to pump a well. The new "Jarco" Roller Pull Rod Carriers cut this power loss to a minimum and thus save substantially on fuel. They also reduce the frequency of rod line breaks, and increase production by providing a greater stroke at the well. Thoroughly proven in the field. Write today for descriptive Bulletin No. 5.

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Mt. Pleasant, Mich.; Eastland and Dallas, Texas
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$$= \frac{10 \cdot .312}{.00523 \cdot 2.3026} = 259$$

$259 \times 30.4 = 7{,}870$ bbls. reserve

End of Calculus Discussion

If we can assume that the per cent oil in the fluid is a function of cumulative production rather than of the rate of withdrawal, the apparent reserves are 7,810 bbls. of oil, if it is considered that there are no pumping capacity limitations.

Then $100 \cdot \frac{6.88}{1{,}276.88} = .54$ per cent oil in the fluid at the apparent economic limit.

Where:

6.88 is the daily oil production at the economic limit,

1,270 is the daily water production at the apparent economic limit, considering that there are no pumping capacity limitations.

However, there are, and our equipment can pump no more than 870 bbls. of fluid per day.

$$.54 \text{ per cent oil} = l_1/870$$

$l_1 = 4.7$ bbls. oil per day. The cut-off point for the same cumulative as above. (See l_1, Figure 1.)

Therefore, to secure 7,810 bbls. of oil under restricted production the final production would have to be 4.7 bbls. of oil per day and the time required to secure this point is as follows:

$$n = \frac{\log (a/l_1)}{\log [1 - (\frac{l_1 - a}{s})]} = \frac{\log (a/l_1)}{\log [\frac{s + a - l_1}{s}]}$$

Where:

$a = 304$ bbls./mo. at present

$l_1 = 143$ bbls./mo. or 4.7 bbls./day as determined above

$$n_1 = \frac{\log (304/143)}{\log [\frac{7{,}810 + 304 - 143}{7{,}810}]}$$

$$n_1 = \frac{\log 2.126}{\log 1.0218} = \frac{.327563}{.009406} = 35 \text{ months}$$

Therefore, referring to Figure 1, extend the abscissa reading, 35.0 months, to the right from the present and put the 7,810-bbl. reserve cut-off point at 4.7 bbls. up on the ordinate. This is on the semilogarithmic paper; and draw back to the last average actual production, i.e., the present time. This line is shown as the real production curve. Now plot the 6.88-bbl. economic limit so that it falls on the new curve. This point tells when the well will be produced at a loss.

Valuation Summary

Since $a = 304$ bbls. per mo. or 10 bbls. per day
$l = 209$ bbls. per mo. or 6.88 bbl. per day
$n_2 = 18$ mo.

The reserves can be recalculated. By the graphical method of solution the reserves are found to be actually 4,600 bbls.

PROFITABILITY ANALYSIS ON J. W. TAYLOR NO. 3

Market price of crude per barrel	$1.15
Less 5 per cent gross production tax	.0575
Actual value of crude to lessor and lessee	$1.0925
Less one-eighth royalty	.1366
Value of gross barrel to operator	$0.9559
Lifting cost is $0.782* per gross barrel of oil	.782
Operating profit per gross barrel	$0.1739
Deferred at .964†	.1675
Gross reserves, barrels	4,600
Net present day value	$770.00

* $\frac{\$200/\text{mo.} \times 18 \text{ mo.}}{4{,}600} = 78.2$ cents lifting cost.

† .964 is the mean deferment or discount factor determined from the annuity formula, and 5 per cent compound discount.

From the above analysis it may be seen that the present-day value of the reserves of Manhattan Taylor No. 3 are worth $770.00.

Referring to the real economic limit on the semilog decline curve we find we have 6.88 bbls. oil when we are pumping 870 bbls. of fluid, the capacity of our equipment. Hence the per cent oil in the fluid is .79 per cent at the real economic limit. Applying this percentage to our per cent oil in fluid versus cumulative curve, we find we have 3,500 bbls. of reserves.

Accordingly our present worth is changed as follows:

Value of gross barrel to operator	$0.9559
Lifting cost is 80 cents* per barrel	.80
Operating profit per gross barrel	.1559
Deferred at .97	.1511
Gross reserves, barrels	3,500
Net present day value	$530.00

* $\frac{\$200/\text{mo.} \times 14 \text{ mo.}}{3{,}500} = 80$ cents per barrel.

Conclusion

From the algebraic analysis for decline curves developed above it may be seen that from individual well production data an analysis may be made of the reserves of a well, and also the present day worth of these reserves, provided the production cost for, say, the past year persists in the future. If desired, compound discount and monthly operating cost may be plotted directly for a complete graphical analysis.[2] If the casing has sprung a leak or the derrick has become too rotten, or if for some other reason an analysis is made, it may be seen if a repair job is justified. This is the most important reason for precise evaluation of individual wells.

The algebraic derivations for analyzing semilogarithmic decline curves as set out previously in this paper have been determined in the valuation classes at the University of Oklahoma. In addition, it might be well to present a few forms actually in use in the industry that are based on erroneous assumptions.

$$s = \frac{(a - l)}{1 - \log^{-1} (\frac{\log l/a}{n})} = \frac{(a - l)}{1 - (l/a)^{1/n}} = \frac{(a - l)}{1 - \sqrt[n]{l/a}}$$

$$n = \frac{\log (l/a)}{\log (1 - \frac{a - l}{s})}, \text{ and since } \frac{a - l}{s} = y \text{ we have}$$

$\log (1 - y)$ which is erroneous.

These forms are based on the assumption that compound discount is $(1 - y)^n$, whereas the true form for compound discount is $(\frac{1}{1 + y})^n$. A calculus error actually used by a company is $y = \int ax^n dx$. For a complete and clear study of compound interest and the various derivations of this law, such as compound discount, annuities, perpetuities, and the Hoskold formula, it is well for the student to study "Mine Examinations and Valuation," by Baxter and Parks.[3] Students in the valuation classes of the University of Oklahoma have found this a most enlightening text.

Emphasis should be placed on precaution. Where logarithms are required, no less than six-place tables must be used precisely.

Acknowledgments

Gratitude is expressed to A. F. Van Everdingen of the Shell Petroleum Corp. at Houston, Tex., for assisting with fundamentals of the decline curve analysis. Also, Mr. Van Everdingen acquainted me with the per cent oil in the fluid curve that is used in this paper. Thanks also is given to the students in evaluation classes at the University of Oklahoma who have helped make this work possible.

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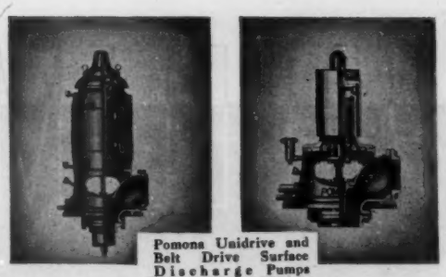
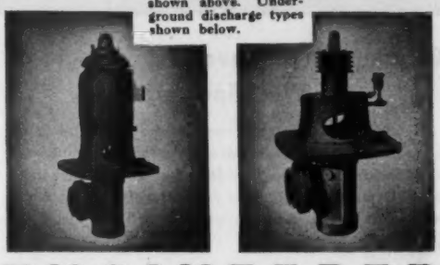


Pomona Unidrive and Belt Drive Surface Discharge Pumps shown above. Underground discharge types shown below.



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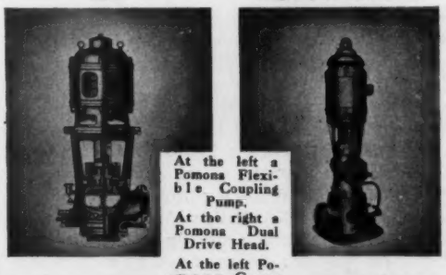

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Pomona offers many different types of pump heads to meet varied operating requirements. In every case the head is engineered to do the job required, to the fullest degree of operator satisfaction.

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PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Legal and Engineering Aspects of Well Spacing

I understand that committees of the American Petroleum Institute have been working upon the problem of well spacing and have made report and recommendations. Could you give me a summary of the report and any references to other discussions on this subject?—S. T. D.

For more than two years the committee of the A.P.I. on well spacing worked upon the legal and engineering phases of this problem and have recently presented reports in printed form to members of the Institute.

The legal subcommittee on well spacing made a report which was signed by Chairman John Kilgore of Wichita Falls, Tex., and eight other attorneys. Suggestions were presented for the establishment of rules and regulations to govern the regulatory agencies in the several oil-producing states to prevent the drilling of unnecessary wells. The suggestions include fixing a "top allowable" for each oil field to avoid physical waste and to prevent exceeding reasonable market demand, prescribing uniform drilling patterns, and establishing appropriate proration units for all fields to allocate production so that each operator may obtain his fair share of the recoverable oil and gas.

The legal subcommittee considered the legal basis for spacing regulations to control physical waste resulting from fires and lack of uniform spacing and lack of ratable production. It also considered exceptions to a uniform-spacing rule to prevent unnecessary hardships, to permit the pooling of tracts in lieu of exceptions and to allow exceptions to prevent waste. Another phase of the problem studied by the legal subcommittee concerned the relation of spacing to distribution of allowable production as between spacing units and proration units and spacing problems made more simple by proper distribution of allowable production. The use of flexible spacing pattern on proration units was also discussed and all matters considered were summarized and recommendations made as follows:

"1. The evil consequences to the oil and gas industry and to the general public which flow from the drilling of great numbers of unnecessary wells call for remedial action on the part of the industry to the extent that this is legally possible, and on the part of the appropriate regulatory bodies of the several oil states.

"2. There is very little that the individual operator can do to remedy the situation except to refrain from becoming an aggressor in precipitating an unnecessary drilling program. If his neighbors should drill unnecessary wells, he is forced to drill to protect himself from drainage and to perform the obligations of his lease, unless he is granted such an adjustment in his allowable production as will enable him to produce his fair share of oil and gas without drilling more wells on his lease.

"3. For legal reasons, those in the industry hesitate to solve the problem by concerted action—that is, by agreements not to drill what are thought to be unnecessary wells. With the spacing patterns prescribed for them, and their allowables fixed, by governmental authorities, they must often times either drill down to the most dense pattern or lose out in the race.

"4. In these days of regulated drilling patterns and regulated production of oil and gas, the onus of prescribing and enforcing proper orders, rules, and regulations to prevent the drilling of unnecessary wells largely rests with the regulatory agencies of the several oil-producing states. The problem largely can be solved by proper regulation. It is fair and proper that we point out several ways in which the conservation agencies of the several oil-producing states may help to remedy the situation. Some practical suggestions follow:

"(*a*) Fix a top allowable for each field at such a point that physical waste will be avoided and the reasonable market demand will not be exceeded.

"(*b*) Prescribe a uniform drilling pattern for each field as soon as possible after production is obtained, and grant no exceptions to such a pattern unless localized conditions in the field definitely require that this be done in order to prevent waste. If an operator be granted such an exception, then so adjust his allowable as to enable him to produce no more than his fair share of the oil and gas.

"(*c*) Require pooling of small or irregularly shaped tracts on a fair basis in order to preserve, so far as possible, a uniform spacing pattern.

"(*d*) So adjust the allowable production between wells and separate properties in the field that, after an operator has drilled such number of wells on his property as will enable him reasonably to produce the recoverable oil and gas in place under his land, he will not be required to drill additional wells in order to produce his fair share of oil and gas and to prevent unreasonable drainage which is not equalized by counter-drainage through his wells.

"(*e*) In prescribing the allowable for each well or property, the regulatory agencies should not give undue consideration to wells and potentials unless the statutes specifically require that this be done.

"(*f*) If the law requires that production be allocated on a well-potential factor, or any combination of factors giving great value to mere wells or their potentials, then strictly adhere as nearly as possible to a uniform spacing pattern, to the end that relatively uniform withdrawals from the reservoir may be had so far as practicable.

"(*g*) The regulatory agencies should establish an appropriate proration unit in each field; and, regardless of the number of wells drilled on such units, should allocate production between such units so as to obtain ratable production, to the end that each operator will obtain his fair share of the recoverable oil and gas from the field without the necessity of drilling unnecessary wells."

Engineering Phases

The report signed by Chairman M. Albertson and 17 members of the special study committee on well spacing, embodying engineering phases of the problem, is summarized as follows:

"1. Engineers observing restricted rates of flow under proration regulations have found that more efficient use of reservoir energy has been made possible than under open-flow conditions. These restricted rates permit as much, or greater, recoveries of oil from a pool with fewer wells.

"2. The board committee was advised about two years ago that certain fundamental studies of reservoirs were necessary to assist in the solution of the well-spacing problem. These studies were started, and are being continued. It is now recognized that the drilling of unnecessary wells and the prevailing trend of diminishing well allowables have caused acute economic distress before any complete solution of the well-spacing problem has been reached.

"4. It is generally agreed that the maximum rate at which a pool can be produced efficiently and economically can be determined.

"5. To gain the greatest uniform ultimate recovery, ratable withdrawals from the reservoir must be maintained.

"6. The rate of withdrawal materially affects the drainage area of a well. Given the former, engineers may, within reasonable limits, determine the latter. Under restricted withdrawal, regional reservoir drainage results, and the drainage area of a well becomes indeterminate—reaching in some cases to remote points in the reservoir. Under such conditions the efficient drainage area of a well becomes that size of a uniform geometrical pattern which will insure adequate wells for reservoir drainage and ratable withdrawal.

"7. The same, or greater efficiency of recovery can be obtained by wider spacing at lower rates of flow per acre than by close spacing at excessive rates of flow per acre.

"8. Well density, within reasonable limits, is not a factor affecting ultimate recovery when ratable withdrawal by the owners of the oil in place is observed in a pool. Where the allocation does not recognize the taking upon the basis of recoverable oil in place, uniform spacing units are necessary to tend to procure ratable withdrawals.

"9. The maximum ultimate recovery, by eliminating underground waste and preventing premature or improper encroachment of water, is obtained by the efficient use of reservoir energy, either natural or artificially introduced, limited only by economic considerations.

Recommendations

"10. In view of the above principles outlined, it is recommended the maximum rate of a pool's production should be specified.

"11. An allocation unit should be adopted which is sufficiently large to prevent the compulsory drilling of unnecessary wells. The well density of such unit can be increased depending on varying reservoir conditions in order adequately to drain the pool at the rate of withdrawal specified. The position of the well in the allocation unit determines the acreage assignable to that well.

"12. The method of distribution to the allocation units should assure ratable withdrawal from the reservoir and no drainage across property lines which is not equalized by counter-drainage."

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Well Spacing and Rate of Production Are Important. S. F. Shaw. The Oil and Gas Journal, March 21, 1936, p. 17.

THE BEST
—WHICH DRILLING METHOD IS?

TO ask in general terms what method of drilling is "best" is like asking "how long is a pipe line?" In general terms, there is no answer.

Where is the property? What is the transportation problem? What is the nature of the foundations, what is the fuel, where are the water sources? Are the production zones definitely known, and how deep are they? Are there stray possibilities? Are the pressures low? What part does time really play in the economics of the problem?

Every one of those factors should be taken into consideration. Carefully analyzed, they will *tell you* which drilling method is the economical one, the better one, for the well in question.

In drilling a well, the fundamental problem is one of economy. Whatever method you may use, reliable equipment and a capable crew are necessary. An analysis assuring these, with your own requirements definitely in view, will enable you to compare, decide, and then proceed, knowing that the method you adopt is the best for your particular job.

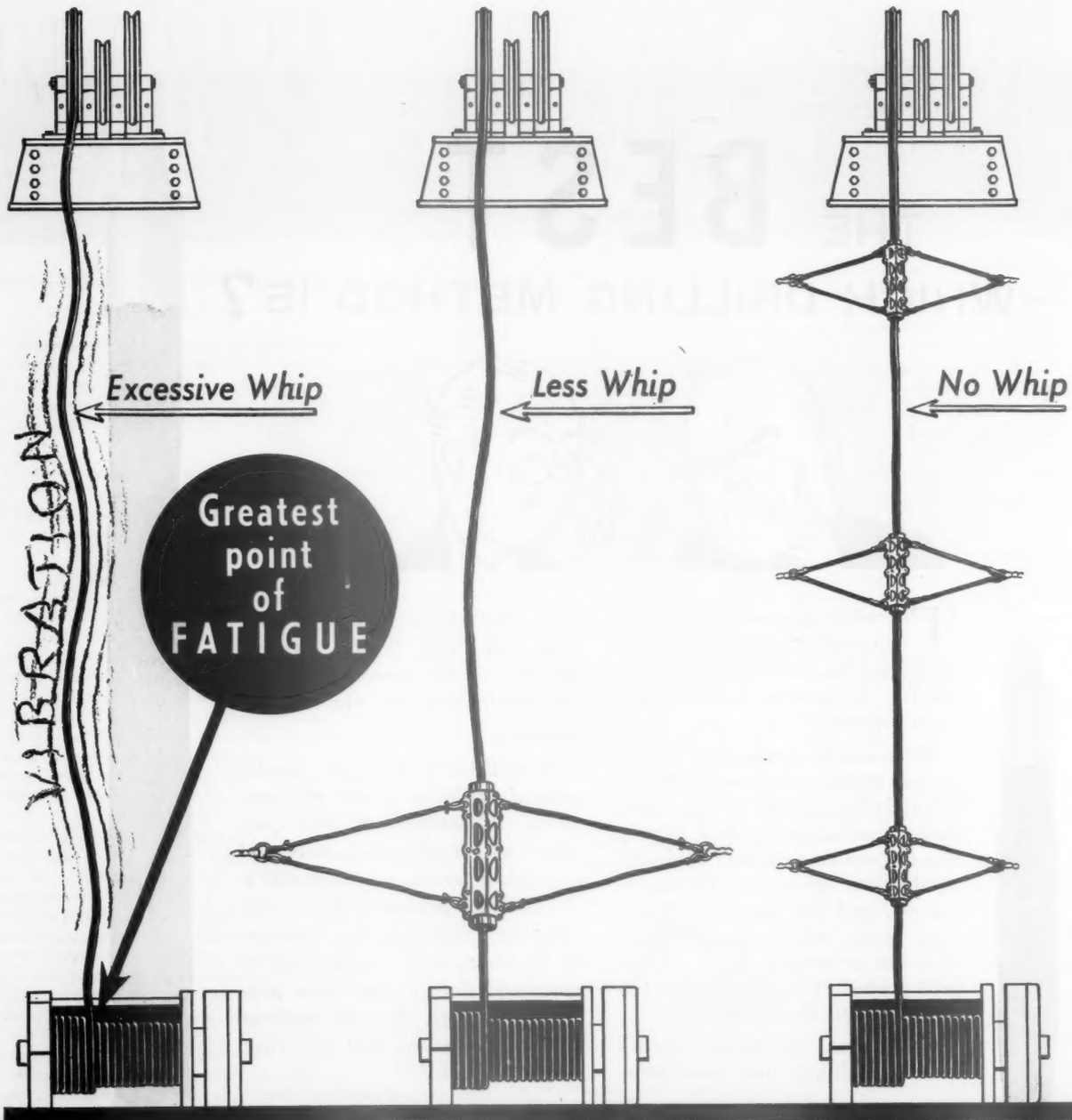
Fig. 524

Cable-system drilling is economical only with good equipment, properly maintained . . . and good equipment includes good tools. Spang Cable Tools are the standard of comparison for good tools the world over.

Fig. 511

SPECIFY SPANG CABLE TOOLS

The HIGHER STANDARD



Note the hinging action at drum and sheave which breaks down the line at these points.

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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Analysis of K.M.A. Oil, Wichita County, Texas

Could you furnish the details covering the properties, such as gravity and products obtained on refining, of the K.M.A. oil produced in Wichita County, Texas?—H. H. L.

The United States Bureau of Mines has furnished details relating to the oil produced in the K.M.A. area of Wichita and Archer counties, Texas. The analysis reported here represents the oil from Mangold No. 1-A at 3,752 feet.

OIL FROM K.M.A. AREA TEXAS

Gravity A.P.I.	43.8
Sulfur %	0.21
Saybolt Universal Visc. at 77° F.	36 seconds
Saybolt Univ. Visc. at 100° F.	35 seconds
Color	Brownish green
Pour	Blow 0° F.

DISTILLATION:

	Per cent	Gravity
Gasoline	40.8	62.3
Kerosene	10.7	42.6
Gas oil	13.4	35.2
Lubricating oil	15.0	(about 29)
Residuum	15.8	18.1
Loss	4.3	...

The octane number of the finished gasoline is about 54.

The crude oil produced from the deep K.M.A. pay horizon (Strawn formation) in Wichita and Archer counties, Texas, is an intermediate base oil according to the analysis shown.

A second sample of crude oil was taken from the Blackwell-Helmerich & Payne, Wilson No. 1 well, a discovery well in the Panther area, approximately 13 miles southeast of the Kadane-Mangold well. This sample is from a well bottomed at 3,860 feet in which the pay formation was topped at 3,821 feet. The distillation summary includes 41.0 per cent gasoline and naphtha, 10.3 per cent kerosene distillate, 13.7 per cent of gas oil, and heavier distillates. Inasmuch as the analysis of this sample indicated little difference in oil from the two wells only the analysis of the Kadane-Mangold well is given.

Although deep production in the K.M.A. area was first reported in April, 1931, when the Deep Oil Development Co. completed the Munger 1-A well and 10 additional wells drilled subsequently by this company, it was not until April, 1937, when the Petroleum Producers Co. completed well 73 on the Munger tract that the deep drilling boom started quickly in outlining a large and important reserve of high gravity oil.

Additional information may be found in The Oil and Gas Journal, January 20, 1938, page 50.

Kerosene For Insecticides Should Be Fully Refined

Should kerosene which is to be used in making household insecticide sprays be refined by a special process?—S. R. T.

A kerosene intended to be used in a spray solution should be free from a strong odor, with no tendency to form an oily spot on textile materials, have a low sulfur content, and be free from aromatic and unsaturated hydrocarbons. A product should be fully refined to meet these requirements.

The California Department of Agriculture has investigated the oils used in agricultural sprays and have adopted certain regulations for these oils. They recommend that the kerosene used for this purpose should be first treated with sulfur dioxide, then followed with a sulfuric acid treat. A superior oil should be sweetened by the conventional doctor process.

The reason for this purification is that some sprays containing kerosene are applied to growing plants which are injured by oils containing unsaturated hydrocarbons. The specifications adopted for light oils, including kerosene, is that the unsulfonated residue shall not be less than 90 per cent of the oil. Unsulfonated residue is determined by the California method.

Find the specific gravity of the oil at 77° F., then weigh the equivalent of 5 cc. into a Babock cream bottle. Add slowly 20 cc. of 37 N sulfuric acid, in 5-cc. portions, shaking and keeping the temperature below 212° F., cooling in ice water if necessary. Immerse in a water bath at 212° F. for one hour, shaking every 10 minutes. Fill the flask with sulfuric acid (sp. gr. 1.84) until the oil rises in the neck, centrifuge and cool to 100° F. From the volume of oil in the neck calculate the volume per cent.

States Which Distribute Natural Gas; Also Air In Gas Problem

In what states is natural gas distributed for industrial and domestic use? Is air sometimes mixed with natural gas?—C. R. M.

These states distribute natural gas: Arkansas, California, Illinois, Indiana, Kansas, Kentucky, Louisiana, Mississippi, Montana, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Texas, West Virginia and Wyoming.

Natural gas is not diluted with air. Some natural gas has a low heating value due to the natural composition of the gas as it comes from the wells. The component that acts to reduce the heating value is usually nitrogen, which neither burns nor supports combustion. It would be expensive to actually introduce air into a natural gas system, because the gas is under pressure much higher than atmospheric, so it would be necessary to add the air by means of a special compressor. Air is quite easily detected in a gas mixture by means of well known chemical tests.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Copper Sulfate

(Blue Stone)

Use—Algicide in water flooding and cooling towers. Purifying drinking water.

Form—Blue crystals or lumps.

Formula—$CuSO_4.5H_2O$.

Molecular weight—249.71.

Specific gravity—2.284.

Solubility—Cold water 32.96; hot water 206 parts per 100 of water.

LIMITATIONS

Technical grade, purity 99 per cent.

Inert material—1 per cent.

Note Should not be used in contact with iron, cooling towers should be built with copper nails and screws.

Tests For Inspection and Grading of Pyrethrum

We wish to have a description of the standard tests used for grading pyrethum, which is one of the constituents of the insect sprays made with naphthas. Do you have the standard specifications?—E. W.

Pyrethrum is the flower of the plant chrysanthemum cinnariaefolium. The flower heads are reduced to a very fine powder, which is converted to a solution, or extract, for use as an inspect spray. The U. S. specification covers the powder. The inspection includes chemicals and microanalytical methods. If the total ash exceeds 8 per cent the presence of foreign matter should be suspected and tests made for lead, chromium and other metals. A total ash of less than 5 per cent suggests the probable presence of an excessive quantity of stems or the product is made from low-grade flowers. Ash insoluble in hydrochloric acid indicates the presence of sand or other mineral matter. The microscopial inspection is for the detection of unground material, adulteration with starch or mineral matter.

V. A. Beckley describes the pyrethrum from Kenya, East Africa. The growing of the plants, harvesting and grading are discussed. The minimum pyrethrin content of the flowers is 1.3 per cent. The flowers are compressed into a bale 22 by 20.5 by 37 inches. The grades from this source are:

Grade 1 (export): Pyrethrum flowers of good color containing not more than 33 per cent immature flowers and/or 8 per cent buds, and/or 10 per cent discolored flowers, and to be free from foreign matter.

Grade 2 (local): Pyrethrum flowers of fair color containing between 33 and 50 per cent immature flowers and/or 12 per cent buds, and/or between 10 and 25 per cent discolored flowers, and free from foreign matter.

Grade 3 (local): Pyrethrum flowers of reasonable color containing between 50 and 75 per cent of immature flowers and/or 25 per cent buds, and/or 25 to 50 per cent discolored flowers, and free from foreign matter.

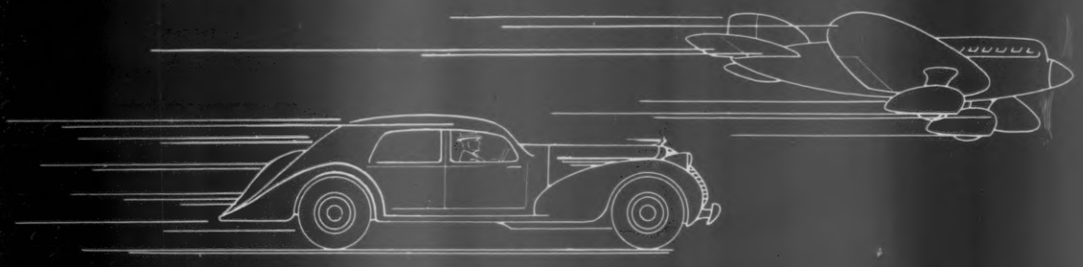
Immature flowers which have less than two rows of disc florets open at the time of packing. Discolored flowers are flowers which have passed the full-blown stage.

References: Federal Standard Stock Catalog. O-P-571. Pyrethrum Insect Powder. V. K. Beckley, Bull. Imp. Inst., 36, 31, 1938.

Natural Gas First Produced at Fredonia, New York

Where was natural gas first produced in the United States and commercial use made of the gas?—S. I.

The first gas well to be drilled in the United States was one near Fredonia, New York, in 1821. The gas was distributed from this well to buildings and residences in Fredonia. This created much interest and was commented on by Lafayette when he visited the United States in 1824, stating "The inn at Fredonia was lighted with gas that came up from the ground."



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VOLATILITY

Mid-Continent Refinery Crude Runs Remain Practically Unchanged

By W. T. ZIEGENHAIN

Reporting a total change of less than 1,000 bbls. daily between the estimated refinery crude runs in Mid-Continent plants during September as compared with August, the general statement may be made that "Mid-Continent refinery operations remain unchanged."

Despite slightly better consumption of gasoline and burner oils, Mid-Continent refiners have not increased crude runs in the past two months. This is the season of the year in which greatly increased operations are usually recorded. This fact may be emphasized by comparing the total refinery runs of this group with one year ago. At that time the total approximated 625,000 bbls. daily. In September of this year this same group will run approximately 556,000 bbls. or close to 70,000 bbls. less than was run a year ago.

Oklahoma

Refineries located in Oklahoma recorded practically no change in their estimated refinery crude runs.

East Texas

East Texas is the only division to report a substantial change in the operations for September as compared with August. Here the total runs will be increased from an average of 52,600 bbls. daily during August to 57,550 bbls. during September. This increase is probably encouraged somewhat by the lower crude prices posted in the East Texas field by a majority of the larger pipe lines.

Weakness in the crude price structure in that area had been recognized for several weeks prior to the general reduction and limited quantities of crude were reported moving to local refineries at prices lower than the posted market. That gave certain refiners an advantage over other plants in the East Texas area and a tendency to increase runs at these plants appeared early in August. However, with this advantage now removed locally, the general price reduction has given all East Texas refiners and those buying East Texas crude, an advantage over those plants which buy crude outside this area and upon which there has been no reduction in price.

Among the East Texas refineries which have reported major changes in their crude runs during September as compared with August are: Cascade Oil & Refining Co., at Henderson which increased its runs from 1,000 bbls. daily to 2,000 bbls.; Danciger Oil & Refining Co. at Longview from 4,000 bbls. to 4,700 bbls.; Hurricane Petroleum Corp. at Overton from 2,800 to 4,000 bbls., and the Utah Refining Co. at Kilgore from 1,000 bbls. daily to 1,600 bbls.

Mid-Continent Crude Runs

Average Daily (Barrels)
(Advance estimate compiled by The Oil and Gas Journal)

	1936	1937	1938
January	501,600	531,535	529,710
February	519,960	541,790	507,985
March	478,760	533,875	491,935
April	506,775	558,385	532,120
May	513,510	572,855	527,315
June	527,225	593,625	540,005
July	539,370	605,640	557,520
August	557,650	624,475	554,810
September	553,215	625,485	555,695
October	536,330	619,210	.....
November	548,015	592,170	.....
December	535,500	544,040	.....

Operations by Refinery Districts
Daily crude runs

	Sept.	Aug.	Inc.
Arkansas	27,800	26,550	1,250
East Texas	57,550	52,600	4,950
Kansas	129,225	131,600	*2,375
N. Central Texas	37,860	36,760	1,100
North Louisiana	45,500	45,800	*300
Oklahoma	165,350	162,550	2,800
Southwest Texas	14,780	17,750	*2,970
W. Texas Panhandle	77,630	81,200	*3,570
Total	555,695	554,810	885

*Decrease.

These changes account for the greater share of the total increase for the East Texas area which is shown above as 4,950 bbls.

North Central Texas

No important changes in refinery operations are anticipated within the North Central Texas area during September according to advance estimates of crude runs. The total daily throughput in September is indicated as 37,680 bbls. compared with 36,760 bbls. in the previous month.

This increase was reflected in the estimated operations of a number of plants, the only large increase being, however, in the Fort Worth, Tex., plant operations of the Gulf Oil Corp. The runs were boosted from 5,800 bbls. daily in August to 7,000 bbls. in September.

Arkansas and North Louisiana

Among the Arkansas group of refiners little change is revealed in the estimated crude runs for the area but substantial changes are indicated in the operations of the North Louisiana group. In the latter area there has been a shifting of runs in which some plants have shown substantial increases while others have shown correspondingly important decreases. The net result has been to leave an unimpressive difference in the operations for the total area.

In Arkansas the one important change is the increase in the runs of the Lion Oil & Refining Co. at its El Dorado plant. Here the daily average throughput has been increased from 13,500 bbls. daily to 15,000 bbls. A large share of the oil is produced from the company's wells in the local Schuler field.

In North Louisiana the most interesting changes in crude runs include decreasing the daily throughput in the Bossier City plant of the Arkansas Fuel Co. from 20,000 bbls. to 19,000 bbls.; decreasing the runs of the Sundra refinery of the East Texas Refining Co. from 5,000 bbls. daily to 2,800 bbls.; decreasing the runs of the Premier Oil Refining Co. of Texas at Cotton Valley from 3,000 bbls. daily to 2,000 bbls., and increasing the runs at the Rodessa Oil & Refining Co. plant at Ida Grove from 6,600 bbls. daily to 10.500 bbls.

After all of the above changes are made, the September runs for the North Louisiana group will total 45,500 bbls. daily compared with 45,800 bbls. daily in August.

Kansas

Slight reductions in the daily refinery operations are recorded for the present month in a number of Kansas refineries. The most impressive decreases are those of the Globe Oil & Refining Co. of McPherson where the daily average will be 12,000 bbls. in September compared with 13,500 bbls. in August and the decrease of the runs of the Kanotex Refining Co. from 8,500 bbls. daily in August to 7,000 bbls. in September.

These changes account for the great bulk of the decline in the total runs of the state where an average throughput of 129,225 bbls. daily is estimated for September against 131,600 bbls. in August.

West and Southwest Texas

Refinery operations in the Southwest Texas group remain unchanged for September except for the decrease in the Magnolia Petroleum Co. operations at Luling where a daily average throughput of 4,000 bbls. is anticipated against 6,500 bbls. in August, and except for the decrease in the Cosden Oil Corp. runs at Big Spring from 12,000 bbls. daily in August to 10,000 bbls. daily in September.

Estimated Daily Average Mid-Continent Refinery Crude Runs for September

OKLAHOMA

Company and location	Daily capacity	Av. dly. runs Sept.	Av. dly. runs Aug.
Anderson-Prichard Ref. Corp., Cyril	7,500	6,500	6,000
Barnsdall Ref. Co., Barnsdall	5,000	4,250	4,250
Bell Oil & Gas Co., Grandfield	5,000	3,000	3,000
Black Gold Ref. Co., Oklahoma City	2,500	(*)	(*)
Champlin Ref. Co., Enid	16,000	15,000	15,000
Cities Service Oil Co., Okmulgee	4,000	2,500	2,500
Cities Service Oil Co., Ponca City	12,000	10,000	10,000
Continental Oil Co., Ponca City	28,000	25,000	25,000
Cosco Oil Co., Wynnewood	3,000	1,300	1,700
Cushing Ref. & Gasoline Co., Blackwell	1,700	(*)	(*)
Cushing Ref. & Gasoline Co., Cushing	4,200	4,000	3,500
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Eason Oil Co., Enid	3,000	2,000	(*)
Globe Oil & Ref. Co., Blackwell	8,000	(*)	(*)
Johnson Oil Ref. Co., Cleveland	6,000	4,400	4,000
Knox Ref. Co., Covington	300	100	100
Mid-Continent Pet. Corp., West Tulsa	35,000	21,000	21,000
Ohio Oil Co., Bristow	5,000	3,000	3,000
Omar Ref. Co., Garber	5,000	3,000	3,000
Peppers Gasoline Co., Oklahoma City	500	400	400
Phillips Pet. Co., Okmulgee	6,500	6,000	6,000
Pure Oil Co., Muskogee	9,000	6,000	6,000
Rock Island Ref. Co., Beckett	6,500	5,200	5,400
Sinclair Ref. Co., Sand Springs	6,000	4,200	4,200
Sun Oil Co., Yale	5,000	2,000	2,000
Sunray Oil Co., Allen	7,000	3,000	3,000
Texas Co., West Tulsa	16,000	10,000	10,000
Tide Water Oil Co., Drumright	12,000	12,000	12,000
Wilcox Oil & Gas Co., Bristow	6,000	2,500	2,500
Total	235,700	165,350	162,550

*Shut down.

NORTH CENTRAL TEXAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs Aug.
Baird Ref. Co., Baird	1,500	1,200	1,200
Bryson Pipe Line & Ref. Co., Bryson	2,000	1,500	1,500
Coleman Ref. Co., Coleman	700	400	400
Continental Oil Co., Wichita Falls	6,000	4,500	4,500
Denver Prod. & Ref. Co., Gainesville	3,000	1,000	1,000
Exchange Pet. Corp., Albany	800	(*)	(*)
Falls Ref. Co., Wichita Falls	2,500	500	500
Gratex Ref. & Fuel Oil Co., Graham	500	285	285
Gulf Oil Corp., Fort Worth	8,000	7,000	5,800
Hightower Oil & Ref. Corp., Brownwood	750	200	200
Jacksboro Ref. Co., Jacksboro	400	150	175
La Salle Pet. Co., Burkburnett	3,000	1,000	1,000
Magnolia Pet. Co., Fort Worth	7,500	6,330	5,800
Midway Ref. Co., Goldsboro	300	100	100
North Texas Ref. Co., Gainesville	600	300	300
Ohio Oil Co., Fort Worth	5,000	3,900	3,900
Olney Oil & Ref. Co., North Olney	3,500	1,000	1,500
Panhandle Ref. Co., Wichita Falls	4,200	3,000	3,000
Panhandle Ref. Co., Luegers	1,500	900	1,000
Southland Ref. Co., Olney	500	100	100
Taylor Ref. Co., Taylor	1,000	750	750
Texas Pacific Coal & Oil Co., Caddo	800	600	600
Tucker Oil Co., Burkburnett	400	145	150
Tydal Ref. Co., Gainesville	1,850	(*)	(*)
Waggoner Ref. Co., Electra	4,000	3,000	3,000
Total	62,300	37,680	36,760

*Shut down.

EAST TEXAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs Aug.
Beacon Oil & Ref. Co., Henderson	4,500	(*)	(*)
Cascade Ref Co., Reed Switch	3,000	2,000	1,000
Clay Ref. Co., Arp	3,500	2,100	2,000
Danciger Refs., Inc., Longview	6,000	4,700	4,000
East Texas Ref. Co., Longview	10,000	6,000	6,000
Hurricane Pet. Corp., Overton	5,000	4,000	2,800
Hurricane Pet. Corp., Arp	3,300	2,500	2,600
Lacy Ref. Co., Kilgore	3,000	1,800	2,200
Magnolia Pet. Co., Corsicana	5,000	4,650	5,400
McMurrey Pet. Corp., Tyler	10,000	2,000	(*)
Premier Oil Ref. of Texas, Gregtown	4,000	2,000	1,800
Paluxy Asphalt Co., Talco	5,000	3,000	3,000
Sinclair Ref. Co., Camp Switch	4,000	3,400	2,000
Solvex Refs., Inc., Gladewater	4,500	(*)	(*)
Southport Pet. Co., Kilgore	4,000	3,000	3,500
Talco Asphalt & Ref. Co., Mt. Pleasant	7,000	5,000	5,000
Texas Co., The, Dallas	16,000	8,500	8,500
Texas Oil Products Co., Gladewater	3,000	1,300	1,000
Tower Ref. Co, Overton	3,500	(*)	800
Utah Ref. Co., Kilgore	2,000	1,600	1,000
Total	105,300	57,550	52,600

*Shut down.

ARKANSAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs Aug.
Berry Asphalt Co., Waterloo	2,000	1,000	1,150
Henry H. Cross, Smackover	6,000	3,000	3,000
Lion Oil Ref. Co., El Dorado	17,000	15,000	13,500
Macmillan Pet. Corp., Norphlet	2,500	2,000	2,000
Root Pet. Co., El Dorado	10,000	6,300	6,400
Stephens Ref. Co., Stephens	700	500	500
Total	38,200	27,800	26,550

KANSAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs Aug.
Barnsdall Ref. Co., Wichita	5,000	5,000	5,000
Bay Pet. Co., McPherson	4,000	3,750	3,000
Chanute Ref. Co., Chanute	1,000	1,000	1,000
Chase Ref. Co., Chase	800	(*)	(*)
Derby Oil Co., Wichita	8,000	5,500	6,000
El Dorado Ref. Co., Eldorado	6,000	4,500	4,000
Falcon Ref. Co., Inc., Great Bend	1,000	850	850
Globe Oil & Ref. Co., McPherson	13,000	12,000	13,500
Kanotex Ref. Co., Arkansas City	12,000	7,000	8,500
National Ref. Co., Coffeyville	8,000	5,000	5,000
Pet. Products Co., Chanute	1,250	1,000	1,000
Phillips Pet. Co., Kansas City	23,000	17,500	17,500
Roper Pet. Co., Parsons	400	325	350
Shallow Water Ref. Co., Scott City	2,500	1,100	1,500
Shell Petroleum Corp., Arkansas City	20,000	(*)	(*)
Sinclair Ref. Co., Coffeyville	12,000	8,200	8,200
Sinclair Ref. Co., Argentine	11,000	8,000	8,000
Skelly Oil Co., Eldorado	23,000	20,000	20,000
Socony-Vacuum Oil Co., Inc., Augusta	20,000	16,500	16,000
Standard Oil Co. (Indiana), Neodesha	7,500	7,400	7,400
United Ref. Co., Russell	1,200	800	800
Vickers Pet. Co., Potwin	4,000	3,800	4,000
Total	184,640	129,225	131,600

*Shut down.

SOUTHWEST TEXAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs Aug.
Carle Ref. Co., Inc., San Antonio	1,000	(*)	(*)
Dale Ref. Co., Dale	500	300	300
Eggleston Oil Products Co., Three Rivers	1,800	800	1,000
Humble Oil & Ref. Co., San Antonio	5,000	3,500	3,500
Ina Oil & Ref. Co., Hondo	400	(*)	(*)
Magnolia Pet. Co., Luling	8,000	3,930	6,500
Misko Refineries, Inc., Mirando City	4,500	(*)	(*)
Pettus Oil & Ref. Co., Pettus	1,000	800	800
Phoenix Ref. Co., San Antonio	1,200	700	700
Phoenix Ref. Co., Pettus	900	500	500
Pioneer Oil & Ref. Co., Somerset	2,000	750	750
Rado Ref. & Prod. Co., McAllen	800	500	700
Texas Co., San Antonio	5,000	2,600	2,600
White Wing Ref. Co., Sullivan City	1,000	400	400
Total	33,100	14,780	17,750

*Shut down.

NORTH LOUISIANA

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs Aug.
Arkansas Fuel Oil Co., Bossier City	25,000	19,000	20,000
Atlas Pipe Line Co., Shreveport	12,500	9,000	9,000
Bayou State Oil Corp., Hosston	750	500	500
East Texas Ref. Co., Sandra	7,000	2,800	5,000
Lake-Price Refineries, Inc.	800	500	500
Premier Oil Ref. Co. of Texas, Cotton Valley	3,000	2,000	3,000
Rodessa Oil & Ref. Corp., Cedar Grove	12,000	10,500	6,600
Stanolind Oil & Gas Co., Superior	5,000	1,200	1,200
Total	62,250	45,500	45,800

WEST TEXAS AND PANHANDLE

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs Aug.
Aero Gas & Ref. Co., Fort Stockton	350	100	100
Coltex Ref. Co., Colorado	12,500	8,000	8,000
Concho Ref. Co., San Angelo	250	(*)	(*)
Cosden Oil Co., Big Spring	15,000	10,000	12,000
Danciger Refs., Inc., Pampa	6,500	5,000	5,000
Danube Oil Corp., Borger	1,200	500	1,000
Farmers Ref., The, Lubbock	500	200	200
Gulf Oil Corp., Sweetwater	7,000	4,880	5,400
Howard County Ref. Co., Big Spring	2,000	600	1,100
Moutray Oil Co., Hawley	1,400	525	525
Onyx Ref. Corp., Hawley	3,000	1,700	1,700
Panhandle Ref. Co., Kings Mill	2,500	1,800	1,850
Payward Ref. Co., Shamrock	600	600	600
Phillips Pet. Co., Borger	35,000	25,000	25,000
Pest Refining Co., Rotan	800	675	675
Shamrock Oil & Gas Corp., Sunray	3,000	2,000	2,000
Shamrock Oil & Gas Corp., Lefors	1,600	1,200	1,200
Standard Oil Co. of Texas, El Paso	14,000	7,400	7,400
Stamford Ref. Co., Stamford	450	400	400
Star Light Ref. Co., Ballinger	1,000	150	150
Texas Co., El Paso	2,000	1,300	1,300
Texas Co., Amarillo	6,000	3,000	3,000
West Texas Ref. Co., Pecos	500	(*)	(*)
Western Ref. Co., Fort Stockton	1,000	100	100
Wickett Pet. Co., Wickett	3,500	2,500	2,500
Total	122,050	77,630	81,200

*Shut down.

ANNOUNCEMENT

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Dallas, Texas

Gentlemen:

I wish to make this statement in connection with the use of your Di-Hard I. R. Metal Slush Pump Liners, which we have been using in a No. 18 Wilson-Snyder Pump purchased from you. At the time we purchased this pump, we installed Di-Hard Liners and put them in operation in the North Pettus Field, in Bee County. We drilled eleven 3700-foot wells, then moved to the Driscol Field, in Nueces County and drilled a 6000-foot well. Then moved near Columbus, in Colorado County, and drilled a 6000-foot well there. Then moved to Premont, in Jim Wells County, and drilled a 3500-foot well there. Then moved to Brownsville, in Cameron County, and drilled a 7600-foot well. Moving from there to McFaddin, in Victoria County, and drilled a 6000-foot well. Then moved to the Plummer Field, in Bee County, and drilled a 2500-foot well, this making a total of 72,500 feet of hole drilled with one set of liners and the pump is still in operation, and as yet, the liners are giving good service.

We feel that these liners have saved us considerable money and the replacement of pistons, due to their very satisfactory service.

It is with pleasure indeed that we are writing this letter concerning our service in connection with this product sold by you in connection with your other equipment that we are using very satisfactorily.

Yours very truly,

HENSHAW BROTHERS, INC.

By Walter A. Henshaw

Walter A. Henshaw

MORE PROOF OF EXTRA SERVICE

15 WELLS PER SET OF DI-HARD LINERS

"We have been using your 'Di-Hard' liners in our slush pumps for the past two or three years. The fact that we now have all our pumps equipped with these liners is excellent proof that they have given us satisfaction.
"In Western Kansas, for example, each set of liners is drilling fifteen or more wells. This is indeed a great improvement over the length of life of liners formerly used in our pumps."

writes Seth W. Herndon, President Herndon Drilling Co., Tulsa.

43,880 FT. WITH ORIGINAL LINERS

"We believe you'll be interested in the excellent service we received from two sets of 7¼x14" 'Oilwell' Di-Hard Pump Liners. "The original set of liners had made 43,800 feet of hole when they were replaced. The second set has made 25,450 feet of hole and is in first-class condition. We expect many more feet of service."

says L. T. McDaniel, Tool Pusher of The L. E. Douglass Oil & Gas Co., Hutchinson, Kan.

53,700 FT. WITH ONE SET OF DI-HARDS

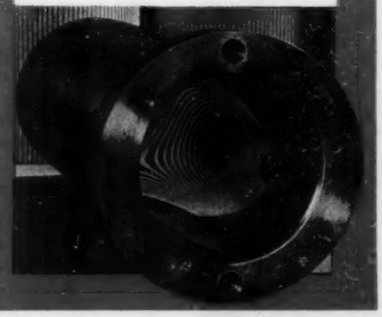
"July 1936, we bought these six-inch Di-Hard Liners as regular equipment with a 6 x 16 Wilson-Snyder pump. These liners were replaced for the first time during January 1938.
"We made a total footage of 53,700 feet with these liners during the time they were in service."

writes C. A. Moore of Troup-Moore, Drilling Contractors, Holdenville, Okla.

DI-HARD LINERS SAVE WEAR AND TEAR ON PUMP

"I used two sets of regular liners in Oil Well and Wilson-Snyder pumps in my drilling operations in Moore County on one well.
"Using D-Hard Liners, I drill approximately six wells using but one set. A proportionate savings is effected in wear and tear on pump heads. I consider this very satisfactory service."

J. R. McGill, Drilling Contractor, Amarillo, Texas.



OIL WELL SUPPLY COMPANY

Subsidiary of United States Steel Corporation

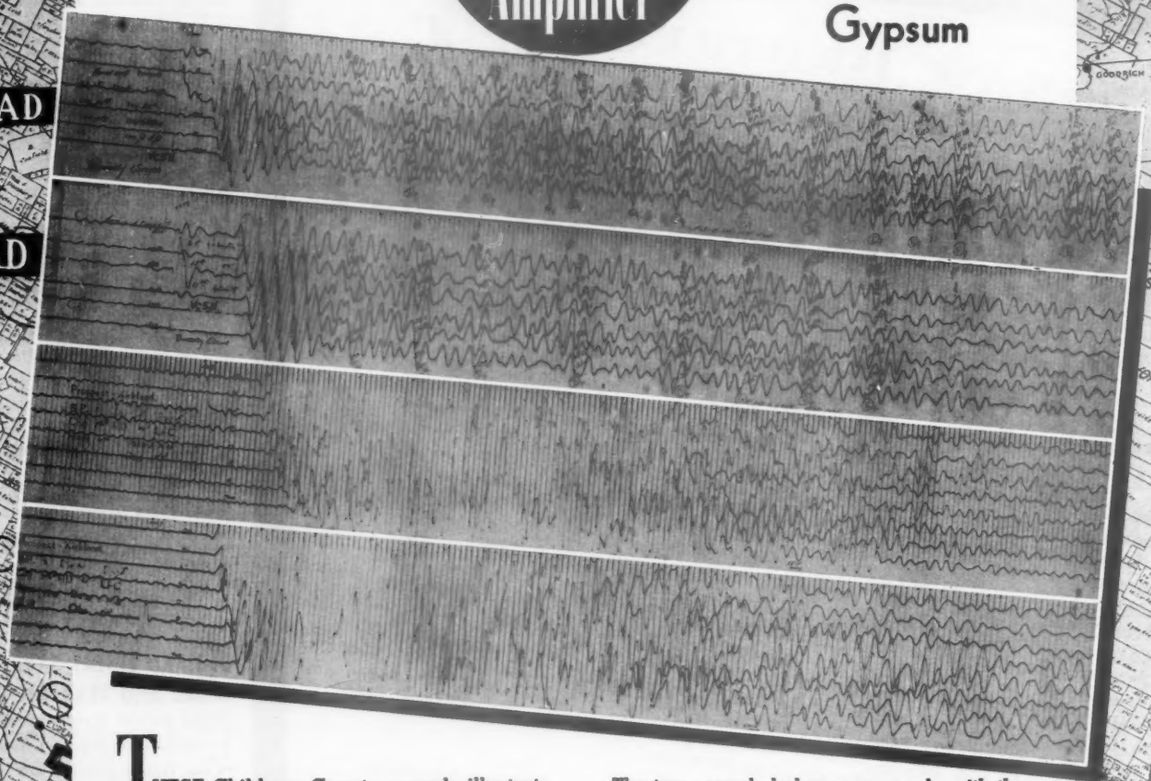
Branch Stores in all Oil Fields

"OILWELL"

Records Made with the

New SOGAD Amplifier

In Childress Co. Texas . . 40 foot Shot Hole in Gypsum



THESE Childress County records illustrate the seismograph work made possible, under extreme difficulties, by the new SOGAD Amplifier and Diversity Circuit. Results equally satisfactory are now available to operators who want seismic surveys in areas where it has previously been considered difficult or impossible to get satisfactory results.

On the two top records notice record character beginning at .35 second and continuing to the end of the record . . . notice the general appearance . . . how readily these records correlate . . . and the value of having all information as shown here on one record.

The two records below were made with the usual amplifier equipment, in the immediate vicinity and under conditions identical to the first two records. The marked difference between these two sets of records is due entirely to the SOGAD Amplifier and Diversity Circuit.

These records were made from shot holes drilled in gypsum. Many areas, where surface sandstone, limestone or gypsum have been the cause of unsatisfactory results, can now be shot using the new equipment.

If you are interested in surveying any area, no matter what the conditions may be, write us your problems and ask for particulars and cost estimates which we are glad to furnish without obligation.

★ OPERATORS AND GEOLOGISTS ARE INVITED TO SEND FOR AN ILLUSTRATED BOOKLET

INDEPENDENT EXPLORATION COMPANY

POINTING THE WAY FOR THE DRILL

ESPERSON BUILDING HOUSTON TEXAS

Experienced in 22 States and in Foreign Fields

FIELD OPERATIONS

Summarizing the Week's Developments

KANSAS—The Tate pool discovery well in Section 31-32-2e, Sumner County, was completed. The abandoned Kruse pool in Rooks County was reopened with a producing oil well in Section 3-10-16w. The Stumps pool was extended one-half mile northward in Ellsworth County. A new producing horizon was uncovered in the Gant pool, Barber County.

OKLAHOMA—Three Oklahoma wildcats were completed as producers, opening new areas in Section 17-6-6, Seminole County; Section 26-11-8, Okfuskee County, and Section 13-9-10, Hughes County. The Wilzetta pool, Lincoln County, was extended one-half mile southward. Work was started at a wildcat in Section 25-9-2w, southeast of the Moore pool, Cleveland County.

NEBRASKA—A test in Sioux County, drilled by Felmont Corp., was dry and abandoned at 6,500 feet.

NORTH DAKOTA—The California Co.'s test in Williams County was abandoned at 10,281 feet because the drill pipe was stuck in the hole, and could not be freed. This is the deepest hole in the Rocky Mountain area.

NEW MEXICO—The Vacuum field in Lea County was extended in Section 36-17-35, 2 miles east of production.

TEXAS—A 6,200-bbl. well was completed in the Means pool in Andrews County, one of the largest wells yet brought in in the northern part of the Permian basin. Two prospective producing areas in Shackelford County and one in Brown County were features. A new field in Jim Hogg County, a prospective pool in Starr County and an oil discovery in a Refugio County distillate pool were the high lights in Southwest Texas. A prospective pool opener, 2 miles southeast of the Green Lake field in Galveston County, is reported. The Fairbanks field was cut off on the north by a deep dry hole. The K.M.A., Hull-Silk and Canyon sand pools in North Texas shared interest as extension wells broadened their productive acreage. Wildcat failures were reported from Anderson and Henderson counties in eastern Texas.

LA-ARK-TEX—Three dry holes in the Magnolia area in Columbia County, Arkansas, put a damper on that district. Nevada County, Arkansas, has a new producing zone, the Nacatoch sand, in a well intended as a deep test. The second Bodcaw sand well to produce oil in the Cotton Valley field in Louisiana was good for 27 bbls. of oil per hour. In southern Louisiana the Chacahoula salt dome in Lafourche Parish was proved productive by a 500-bbl. well.

MICHIGAN—Clare County came into further prominence with a well starting at more than 2,100 bbls. per day in the Freeman pool. It is the fourth well in the pool.

ILLINOIS—The discovery well in Section 16-3s-9e, Wayne County, went to water after it had been acidized, but may yet be saved. There are 325 rigs and drilling wells in the state, and about 50 locations. The Louden and Lake Centralia, or Salem, fields are growing steadily, with relatively large producers from the shallow sands.

Completions in All Fields

(Week Ending September 10, 1938)

	Oil	Gas	Dry	Total	1938 total comp. to date	1937 total comp. to date
N. Y., Pa. and W. Va.	40	10	9	59	2,644	3,109
Ohio	5	18	12	35	684	821
Indiana	6	5	4	15	68	70
Kentucky	11	2	15	28	613	408
Illinois	28	0	12	40	971	112
Michigan	10	0	8	18	576	549
Kansas	23	1	4	31	1,123	1,788
Oklahoma	24	2	2	28	1,215	1,933
Texas:						
North Central Texas	29	1	16	46	2,230	1,997
West Texas	26	1	2	29	1,375	1,884
Texas Panhandle	5	1	0	6	408	523
East Texas	17	0	0	17	1,383	1,609
East Central Texas	6	1	2	9	248	493
East Texas Border	1	0	0	1	102	262
Gulf Coast Texas	16	0	8	24	924	1,073
Southwest Texas	26	3	12	41	1,448	2,300
Total Texas	126	7	40	173	8,118	10,141
North Louisiana	4	1	1	6	450	450
Gulf Coast Louisiana	5	0	7	12	329	321
Total Louisiana	9	1	8	18	779	771
Arkansas	2	0	2	4	165	108
Montana	2	1	0	3	68	150
Wyoming	1	0	0	1	108	75
Colorado	1	0	1	2	8	11
New Mexico	7	0	0	7	392	524
Utah	0	0	1	1	2	2
California	18	0	4	22	922	1,068
Total United States	316	47	122	485	18,462	21,640
Total previous week	449	33	129	611		
Difference	133	14	7	126		

Outstanding Fields--Highlights

(Week Ending September 10, 1938)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	61	97	23	15,683	765	15,300
Hastings	3	5	2	1,032	581	20,676
Saxet	0	6	0	0	618	32,439
East Texas	17	24	17	822	25,588	368,349
Ector County	10	74	8	7,130	1,253	39,198
Winkler County	8	14	4	5,059	1,692	35,699
OKLAHOMA						
St. Louis	6	24	6	1,288	635	19,250
Oklahoma City	5	9	0	0	1,091	107,125
KANSAS						
Barton County	4	24	7	2,358	357	10,186
Stafford County	4	21	2	713	165	3,098
Rice County	6	19	4	1,335	1,200	22,151
Russell County	4	20	2	543	1,130	24,062
NEW MEXICO						
Lea County	11	76	7	987	1,842	101,290
LA-ARK-TEX						
Rodessa, La-Ark-Tex	2	14	2	1,020	1,025	71,735
Cotton Valley (deep)	0	16	1	650	88	10,625
Lisbon, La.	1	6	1	1,255	260	11,820
Schuler, Ark.	1	21	1	625	89	25,275
Jennings, La.	2	12	2	392	120	24,267
MICHIGAN						
Overisel	1	16	1	800	22	3,652
ILLINOIS						
Central Illinois	35	290	28	8,200	907	65,760
CALIFORNIA						
Wilmington	5	19	4	1,783	547	92,500
KENTUCKY						
Birk City	3	28	3	550	46	3,890

Illinois and Kentucky

By STAFF CORRESPONDENT

Texas Gets 1,135-bbl. Well In the Growing Salem Field

MATTOON, Ill., Sept. 12.—Drilling wells in the Illinois fields rose to 290 in number in the past week, and in addition there are 35 rigs up or machines ready to start. Throughout the less than 20-months life of the basin field drilling has kept ahead of completed work.

In the Salem area in Marion County, also called the Lake Centralia field, the Texas Co. completed three good wells in the past seven days including No. 1 Stonecipher, SW SE SW Section 32-2n-2e, which flowed 1,135 bbls. in 24 hours from Benoist sand at 1,704 feet, total depth 1,753 feet. Texas Co. No. 5 Williams flowed 653 bbls. in 17½ hours and its No. 1 Richardson was good for 125 bbls. a day, both from Benoist sand.

Carter Oil Co. No. 2 F. Ray, NE SW SW Section 9-1s-2e, Jefferson County, had Bethel sand at 1,945-63 feet and pumped 240 bbls. of oil and 12 bbls. of water in 24 hours. Same company's No. 3 Foster, NE NE NE Section 9-1s-2e, had Bethel sand at 1,941-58 feet and pumped 247 bbls.

The Salem field, east of Centralia, is now about 5 miles long, north and south, and about a half mile wide, east and west, and there is no indication of its limits. The Louden field in Fayette County has 100 or more producing wells.

Illinois Fields

HIGHLIGHTS OF THE WEEK: The Louden field in Fayette County has taken much of the "play" from the Centralia field in Clinton and Marion counties, and the Salem field in Marion is growing rapidly. The discovery well in Section 16-3s-9e, Wayne County, started producing salt water.

Daily production of new pools is 65,760 bbls. and old fields 12,187 bbls., total 77,947 bbls.

Completed oil wells, 28; new operations including locations, rigs and wells drilling, 375.

H. E. Sloan and associates No. 1 Walker, NW NW NW Section 16-3s-9e, Wayne County, incorrectly carried last week under the ownership of Iroquois Oil & Gas Co., and hailed as a pool opener, was first acidized with 1,500 gallons and flowed 325 bbls. in 24 hours. Then it was given a 5,000-gallon acid treatment and flowed 66 bbls. of oil and then quit. It was next put on the pump and produced water with a small showing of oil. It had McClosky lime top at 3,420 feet, total depth 3,438 feet. It is not a completion.

Nine Wildcat Failures

Nine attempts to locate oil fields in productive and nonproductive counties in the basin were given up as failures in the past week.

H. J. Schlafly No. 1 Brinkman, NE NE NW Section 31-1n-2w, Washington County, was abandoned as dry at 1,715 feet. St. Louis limestone was topped at 1,540 feet. E. C. Phelps No. 1 Henry Dodillet, SE NW SW Section 25-1n-1w, Clinton County, a hole full of water at 1,425 feet, was abandoned.

In Marion County, Iroquois Oil & Gas Co. No. 1 Phillips, NE NE NW Section 1-1n-1e, was dry and abandoned, total depth not ascertained.

In Fayette County, Bell Oil Co. No. 1 R. C. Sloan 175 feet from south and 15 feet from east lines of SW quarter Section 4-8n-3e, had Weiler sand at 1,638-45 feet, but it was dry, and the test was abandoned.

In Macoupin County, H. W. Livingston No. 1 Lippold, C E half NE SW Section 21-9n-8w, was dry and abandoned at 617 feet.

In Coles County, Kingwood Oil Co. No. 1 Tomberlin, SW SE SE Section 21-11n-10e, topped Silurian at 2,630 feet, and Trenton lime at 3,290 feet, and was drilled to 3,532 feet, and there abandoned as dry.

In Champaign County, Nedra Oil & Gas Co. No. 1 Block, SE SE NE Section 33-18n-10e, was dry and abandoned at 480 feet.

In Washington County, Thompson Drilling Co. No. 1 Roznowski, SE NE NW Section 19-3s-1w, was dry and abandoned at 1,682 feet. It had Fredonia top at 1,574 feet, and the oolitic zone at 1,613-18 feet, dry and tight.

Complete 3 Fair-Sized Wells in Birk City; 5 New Starts

OWENSBORO, Ky., Sept. 12.—Dr. James W. Martin, state commissioner of revenue, reports that oil production in Henderson and Daviess counties aggregated 117,029 bbls. most of it from the Birk City field, which lies in a part of both counties.

Oil production in Henderson County totaled 82,653.75 bbls. Producers were paid $104,624.03 by the three companies handling the oil.

June production totaled 50,520.44 bbls. which had a value of $59,366.27. The county's tax receipts for oil during that month were $593.04.

Production in Daviess County during July aggregated 34,376.07 bbls.

During July in Henderson County, the Fordsville gathering line, taking oil from the Birk City pool, handled 56,516.75 bbls., and the Aetna Oil Service, which also buys in the East Henderson County field, took 19,918.02 bbls. The Ohio Oil Co., which buys in Niagara pool, took 6,218.98 bbls.

In the past week in the Birk City pool, Benedum & Trees, Inc., No. 2 Mrs. W. S. Calhoun, found an 8,000,000-foot production of gas in the Jett sand. The well was placed under control and the gas cased in, and drilling for the McClosky lime continued. The test was on top of the McClosky at last report. Carter Oil Co. No. 2 R. M. Hagen had McClosky at 1,875 feet, and was drilling to the lower McClosky. W. E. Hupp and others No. 4 Mrs. L. Taylor is a 200-bbl. well in McClosky lime at 1,855-61 feet, total depth 1,883 feet. All three wells mentioned are in Daviess County. Across the river in Henderson County, Cumberland Petroleum Co. and Snowden & McSweeney, Inc., have a 100-bbl. well in No. 4 Francis Dempwolf at a total depth of 1,900 feet, and Carter Oil Co. completed a 250-bbl. well in No. 2 Tom Jones in McClosky lime at a total depth of 1,882 feet.

The secretary of state at Frankfort granted a charter Wednesday to the Hall Drilling Co., capitalized at $10,000, with Sherman Hall, Mrs. Cora Wells, and Evelyn Wells, all of Owensboro, as incorporators.

Gas from the K. A. Jones well, drilled by James C. Ellis some time ago, is being purchased by the Kentucky Natural Gas Co. and distributed for use at drilling outfits in the field.

Other operations in Western Kentucky including completions and new work, were as follows:

Breckinridge County: Tar Springs district, William Ralston and others No. 1 Acos Brothers, dry hole, total depth 1,713 feet. Glenn Dean district, Glasscock & Flesher No. 2 Exodus Embry, show of gas, abandoned, total depth 618 feet. McQuady district, J. James and others No. 1 J. R. Jolly, moving in.

Butler County: Mount Zion School district, Dr. Smith No. 1 Jess Arnold, 15 bbls. per day from Jett sand at 129-35 feet and 182-89 feet, total depth 193 feet; Cumberland Petroleum Co. No. 2 E. V. Harper, 20 bbls. per day from Jett sand; No. 3 spudding in. Six miles southeast of Beaver Dam, Porter Evans and others No. 1 J. D. Crayon, dry hole at 1,532 feet. Huntsville district, W. E. Hupp and others No. 2 V. A. Harrison, spudding in. Big Springs School district, Porter Evans and others No. 1 Minnie Perry, dry hole.

Daviess County: Birk City district, Compton and others No. 1, Birk City Church Lot, derrick up; Jess Ashby and others No. 2 Mrs. C. E. Jagoe, derrick up; A. C. R. Oil Co. No. 2, E. L. Newton Lot, building derrick; Carter Oil Co. No. 1 Mrs. Lillie M. Wimsatt, location. Cane Run School district, Cumberland Petroleum Co. No. 4 J. Hayden, rigging up; W. E. Hupp and others No. 4 W. R. Jones, rigging up. Utica district, C. T. Johnston and others No. 3 N. C. Howard and Rex O'Flynn, moving in. Pellville district, J. T. Bartlett and others Slick Petit, dry hole, total depth 474 feet.

Grayson County: Falls of Rough district, A. V. Smith and others No. 3 Crit Porter, spudding in.

Hancock County: Easton district, Eureka Drilling Co. No. 1 Baker Brothers, 368,000 feet of gas from Bethel sand at 649-55 feet; No. 2 Baker Brothers, moving in; Joseph B. Mayers and others Nos. 25 and 26 W. J. Mathews, completed as Jett sand key wells.

Henderson County: Birk City district, Aetna Oil Service Corp. No. 2 C. A. Dempewolf, cored McClosky pay and cementing casing; Sun Oil Co. and Kentucky Natural Gas Co. No. 1 Waverly Staples, coring McClosky lime. Corydon district, Sun Oil Co. and others No. 1 H. R. Trigg Estate, dry hole at 2,785 feet.

McLean County: Cleopatra district, Hoosier Drilling Co. No. 1 J. T. Hayden, dry hole at 2,250 feet. Buel district, J. C. Ellis No. 1 G. H. Tucker, dry hole at 2,120 feet.

Ohio County: Maxwell district, Joseph B. Mayers and others No. 2 Harlan Boyd, 25 bbls. per day from Jett sand. Adaburg district, Nollem Oil & Gas Co. No. 9 Vincent Crowe, 20 bbls. per day from Jett sand; Doctor Hardie and others No. 9 C. Roach, dry hole. Ralph district, A. Teller and others No. 4 Archie Dickens, dry hole through lower Jett sand, total depth 647 feet; No. 5 Dickens, moving in; Henry and others No. 6 S. V. Flowers, dry hole through Jett sand. Oklahoma district, W. Snyder and others No. 1 P. T. Westerfield, 75-bbl. well in lower Jett sand at 691-700 feet, total depth 705 feet; White & Vickers No. 1 George Howard, rigging up. Beda district, Kentucky Natural Gas Co. No. 1 G. W. Johnson, dry hole at 1,505 feet. Friendship Church district, J. N. Speary and others No. 4 D. S. Smith, dry hole.

In Franklin County, Amerada Petroleum Corp. No. 11 Ziegler, SW NE NW Section 14-7s-1e, was dry and abandoned at 3,039 feet. St. Louis lime was topped at 2,885 feet.

Illinois Wildcats

Clinton County: Watkins & Wright No. 1 Wise, 75 feet from north and 600 feet from west lines SE quarter Section 24-1n-3w, drilling at 760 feet with hole full of water; Farrelly and others No. 1 Berginan, NW SW NW Section 30-1n-3w, drilling at 300 feet; E. C. Phelps No. 1 H. Dodiliet, SE NW SW Section 25-1n-1w, Cypress top at 1,367 feet, total depth 1,425 feet, hole full of water, fishing; Sappington and others No. 1 Hilgeman, SE NE NW Section 22-3n-3w, total depth 1,030 feet, underreaming; M. & K. Oil Co. No. 1 Keaner, NE NW NE Section 10-3n-2w, total depth 1,139 feet, underreaming 6-inch casing; Harris and others No. 1 Hage, C S half SE SE Section 18-1s-5w, spudded.

Marion County: Gray & Blalock No. 1 Dr. Welch, in E half NE NW Section 2-1n-1e, derrick; Anna Bell No. 1 Schlageter, NE SE SW Section 5-1n-1e, shut down at 1,550 feet; Thompson Drilling Co. No. 1 Wright, C NE SE NE Section 8-1n-1e, total depth 1,282 feet, rigging up rotary; Gardenshire No. 1 Wesner, SW NE SE Section 12-1n-1e, drilling at 1,900 feet; R. E. Dalton No. 1 Ira Dalton, NW SE NE Section 19-1n-3e, Cypress top 2,253 feet, shut down at 2,300 feet; R. E. Dalton No. 1 Clifton, NE SW SW Section 15-1n-4e, Bethel top 2,650 feet, shut down at 2,682 feet with very small showing of oil; Boyce and others No. 1 Foster, C NW NW SE Section 10-2n-1e, total depth 1,340 feet, shut down; Oil Royalties No. 1 Suggs-Meeker, C W half NW NW Section 11-2n-1e, shut down at 1,109 feet; Jay Copps No. 1 Wesner, SW SW NW Section 24-2n-1e, rigging up machine; Shobe Engineering Corp. No. 1 Morey, SE SE Section 4-4n-1e, shut down at 200 feet for repairs; Wanner and others No. 1 Young School, NE NW SE Section 20-2n-2e, Bethel sand at 1,733-43 feet, set 7-inch casing at 1,731 feet; Sheppard and others No. 1 Greer, SW NE SW Section 30-2n-2e, Bethel at 1,904-18 feet, shot with 5 quarts at 1,920-24 feet, small showing of oil; Pyramid Petroleum Co. No. 1 Roddy, SE SE SW Section 20-2n-3e, set 6-inch casing at 2,207 feet and shut down Coyer No. 1 Mulvaney, SE NE SE Section 6-2n-4e, shut down at 1,050 feet.

Clay County: Duncan Oil Co. No. 1 Ullom, C W half SW NW Section 22-2n-8e, drilling at 2,750 feet.

St. Clair County: Neil No. 1 Pfeffer, 900 feet from south and 330 feet from east lines of NE quarter Section 20-2n-6w, total depth 791 feet, underreaming 6-inch casing.

Richland County: Lake & Allen No. 1 Hazel, C NE NW Section 22-2n-9e, derrick; Pure Oil Co. No. 1 Wakefield, W half NW NE Section 26-4n-9e, saturated sand 2,564-82 feet, on a 25-minute drill stem test showed 59 feet of oil and 90 feet of mud, shut down for orders.

Lawrence County: Hubst and others No. 1 Houghton, C SE SE Section 12-4n-11w, drilling at 1,045 feet.

Madison County: Penn Illinois Oil Co. No. 1 Poog, NW NE SW Section 12-4n-9w, drilling at 1,460 feet; Spivey Drilling Co. No. 1 Storms, SE SW NE Section 15-6n-8w, shut down at 1,799 feet.

Bond County: Elmor and others No. 1 Dilman, SW SE SW Section 13-6n-2w, shut down for repairs at 420 feet.

Fayette County: Rosenthal No. 1 Washburn, near NE SE NW Section 30-6n-3e, running 7-inch pipe to 1,600 feet; Wesley Hayes, Miller and others No. 1 Thull, SE SW SE Section 14-8n-1e, drilling at 840 feet, reaming; Whisnant and others No. 1 Zanders, SW SE NW Section 36-9n-3e, shot with 40 quarts at 1,560-70 feet, cleaning out.

McDonough County: O. H. Hammer No. 1 Jones, C NW Section 22-7n-3w of fourth p.m., drilling at 550 feet.

Macoupin County: Spence Brothers No. 1 fee, SE SW SW Section 13-8n-9w, drilling at 1,695 feet. H. W. Livingston No. 1 Lippold, near C E half NE SW Section 21-9n-8w, drilling at 500 feet.

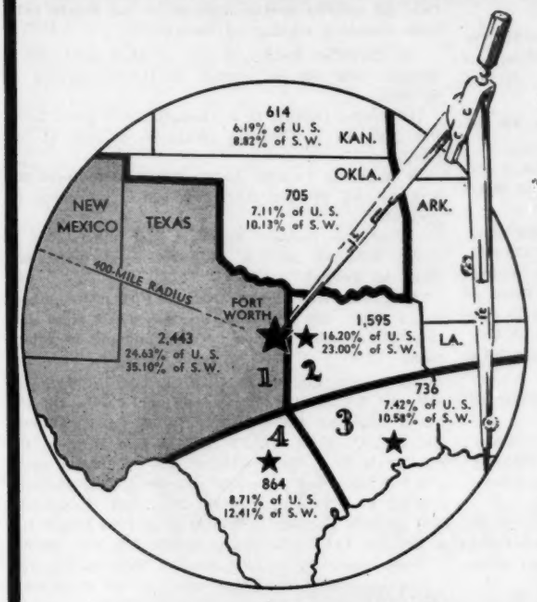
Cumberland County: National Consumers No. 1 Harrison-Ward, NE SE NE Section 17-9n-9e, shut down at 1,695 feet.

Edgar County: Bearcey and others No. 1 Blair, near C NW NE NW Section 24-14n-14w, shut down at 300 feet; Mabee Consolidated Corp. and others No. 1 Oakland Bank, NW NW NE Section 31-14n-14w, total depth 1,180 feet, underreaming 6-inch casing; E. Lapsley No. 1 Roll, SW SW NE Section 17-14n-13w, drilling at 360 feet.

Morgan County: Waverly Oil Co. No. 1 Hubbs, near C E half E half E half Section 33-14n-8w, drilling at 1,600 feet.

Champaign County: Sidney Oil & Gas Co. No. 1 Wendling, 1,570 feet from south and 450 feet from east

WORLD'S GREATEST
OIL PRODUCING AREA . . . .



WITHIN FORT WORTH'S MAGIC CIRCLE

1. *In this area served by Fort Worth, 2,2443 new producing wells were completed in the first 6 months of 1938. This was 35.10% of the total for the Southwest and 24.63% of the U. S. total.*
2. *In this area 1,595 wells were completed or 23.00% of the total for the Southwest —16.20% of U. S. total.*
3. *In this area 736 wells were completed —10.58% of the completions for the Southwest and 7.42% of the U. S.*
4. *In this area embracing South Central, Southwest and the Rio Grande Valley, 864 wells were completed—12.41% of the Southwest total and 8.71% of the U. S.*

WITHIN the 400 mile radius of Fort Worth's Magic Circle is found the world's largest Oil Producing Area. This area is now producing over a billion barrels of oil annually, and has an actual known reserve that will last over fifty years at the present rate of production. This area contains 70.16% of the total completions of producing wells in the United States during the first six months of 1938, or 6,957 out of the 9,916 total for the entire United States.

In the Magic Circle each principal Texas city has been allotted the area which it can serve most economically. This division shows that Fort Worth's area — number one — can serve Oklahoma and Kansas to a better advantage than areas three and four because it is closer. Fort Worth area, which contains 35.10% of new producing wells, also has the distinct advantage of being located on the main lines of all railroads serving both Texas and Oklahoma. It is also the logical city to serve the future development of the vast West Texas area.

Locate your headquarters, factory or warehouse in Fort Worth, the heart of the Mid-Continent Area. Fort Worth is a friendly city which offers the fastest transportation facilities — satisfactory factory locations — contented labor situation — ample office space — abundant water supply — low industrial power rates — economical natural gas — friendly "oil minded" banks — no sales tax — no State inheritance tax — no State income tax — and a grand, healthy friendly city in which to live and rear your children.

Your choice of Fort Worth as Southwestern operating headquarters will be a most profitable decision and will place you in the heart of the "Big Play."

FOR SPECIFIC SURVEYS AND DETAILED INFORMATION REGARDING FORT WORTH OPPORTUNITIES, WRITE THE OIL AND GAS COMMITTEE

CHAMBER of COMMERCE
FORT WORTH
Heart of the Mid-Continent Area

lines SE quarter Section 10-17n-10e, rigging up machine.

Platt County: Max Pray No. 1 Baker, SW NE NE Section 17-18n-6e, total depth 2,005 feet, in shale, preparing to run 6-inch casing.

Menard County: Arthur Scroggins No. 1 fee, C SW SW Section 24-19n-5w, top of sand at 1,520 feet, lime at 1,550-58 feet, with showing of oil, total depth 1,570 feet, plugged back to 1,555 feet, swabbing water, will pull 5-inch casing.

Southern Wildcats

Washington County: Morris No. 1 Marquard, SE NW SW Section 33-1s-5w, shut down at 900 feet; Bitterman No. 1 Bonk, C SE NE SW Section 16-3s-2w, drilling at 385 feet.

Edwards County: Leach Brothers No. 1 Lee, SW NE SE Section 11-1s-10e, drilling at 3,415 feet.

Franklin County: Adams Oil & Gas Co. No. 1 Old Ben Coal Co., SW SW NE Section 19-5s-2e, shut down for orders at 2,845 feet.

Jefferson County: Sam Jennings and others No. 1 Patton, NW NE SW Section 1-1s-1e, fishing at 1,170 feet; Benedum-Trees, Inc., No. 1 Jeff Oil & Gas Co., C NW NE Section 16-4s-2e, drilling at 2,452 feet; Price & Parker No. 2-A Hamilton (40 feet west of No. 2), SW SW NW Section 20-4s-3e, drilling at 2,894 feet; J. Garfield Buel No. 1 Forrest, SW SE NE Section 4-5s-1e, drilling at 2,907 feet.

Jackson County: Eason Oil Co. No. 1 Bowlin, C SE NE Section 12-7s-2w. drilling at 1,203 feet.

Saline County: Carpenter and others No. 1 Sloan, SE SE SW Section 32-7s-6e, drilling at 890 feet; Flaherty & Wineberg No. 1 Choisser, NE NW NW Section 5-8s-7e, drilling at 805 feet.

White County: Arab Petroleum Corp. No. 1 Frank Doerner, Sr., SE SE SE Section 12-7s-8e, Ste. Genevieve limestone at 2,983 feet, Roseclaire at 2,980 feet, shut down at 3,063 feet.

Gallatin County: Bailey & Lucas No. 1 Dr. Harry Logan, SE NE NE Section 21-8s-8e, total depth 1,316 feet, shut down for orders.

Pope County: C. C. Whitlock and others No. 1 Anthis, NW NW NE Section 12-11s-3e, Fredonia at 1,630 feet, total depth 1,760 feet in limestone, shut down.

46 Operations Started

Twenty of the 46 new operations reported in the past week were in Fayette County, which has taken much of the "play" away from Marion and Clinton counties, the two leading operating fields this year. Following is the list of new work first reported this week:

In McDonough County, W. T. Cole and others No. 1 Williams, 200 feet from north and 610 from west lines SE quarter Section 6-4n-4w of the fourth principal meridian, rigging up machine.

In Christian County, Sword & McDougall, No. 1 Warren, NW SE SE Section 23-11n-1e, moving in machine.

In Shelby County, O. J. Connell, No. 1 Chris Laeding, NW SE NE Section 30-11n-5e, drilling at 500 feet.

In Macoupin County, W. G. Dillon and others No. 1 Keele, SE SE NE Section 32-10n-9w, machine on ground.

In Shelby County, Strickler and others No. 1 Henry Sommer, SE SW SW Section 20-10n-1e, material on ground.

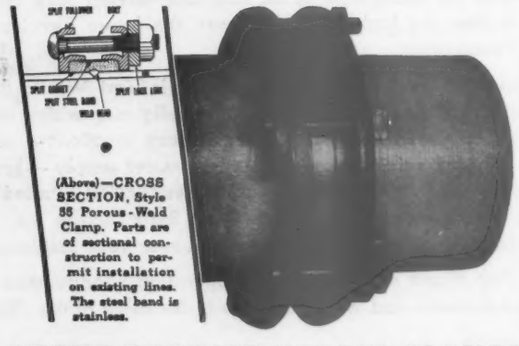
In Cumberland County, Ray L. Fisher and others No. 1 Cable, 550 feet from north and 330 from east lines NE quarter Section 27-9n-9e, moving in rotary tools.

In Fayette County, G. C. Rockwood No. 1 Soper, SW SW NE Section 9-8n-1e, rig up; Carter Oil Co. No. 8 Main, SE SW SE Section 15-8n-3e, rig; Carter No. 1 J. C. Black, SE SW SW Section 16-8n-3e, rig up; Jarvis Bros. No. 7 Sinclair, 330 feet from north and 360 from east lines NW quarter Section 29-8n-3e, drilling at 1,380 feet; Jarvis Bros. No. 8 Sinclair, NW NE NW Section 31-8n-3e, rig up Paul Doran No. 2 McCann, Lot 25, Louden City, SE NE NW Section 31-8n-3e, spudded. W. B. Johnson Drilling Co. No. 4 Goetting, 460 feet from north and 860 from west lines NW quarter Section 32-8n-3e, Weiler sand at 1,503-20 feet, saturated, coring at 1,570 feet for Benoist sand; Rawald & Johnson No. 1 Turner, SE SW SW Section 12-7n-2e, spudded; Kingwood Oil Co. No. 2 Smith, 330 feet from east and 585 from north lines NE quarter Section 13-7n-2e, rigging up, rotary; Ray Brown No. 3 Rosa Hopper, north half SE SE SE Section 12-7n-2e, drilling below 1,400 feet; W. C. McBride, Inc., No. 1 H. S. Williams, SE SW NE Section 12-7n-2e, spudded; Minerva Oil Co. No. 1 Vercruysee, NW SE SE Section 4-7n-3e, deepening from 1,512 feet, found stray sand at 1,555 feet and Bethel at 1,601 feet, total depth 1,605 feet, set 7-inch casing at 1,555 feet; Jarvis Bros. No. 2 Yokey, SE NW SE Section 6-7n-3e, location; Jarvis Bros. No. 3 Yokey, NE SW SE Section 6-7n-3e, location; No. 4 Yokey, SE SW SE Section 6-7n-3e, location; Carter Oil Co. No. 1 Marie Thornton, SW SE NW Section 7-7n-3e, location; No. 2 Marie Thornton, NW SE NW Section 7-7n-3e, location; Carter No. 1 H. S. Williams, NE NW SW Section 7-7n-3e, location; Carter No. 1 Leona Williams, NW NE SW Section 7-7n-3e, location; Carter No. 1 S. Leona, SW SE SW Section 7-7n-3e, location; W. C. McBride, Inc., No. 1 Laura Logue, 783 feet from west and 75 from south lines NW quarter Section 8-7n-3e, coring at 1,401 feet; C. F. Steele No. 2 Arnold, NW cor. NE NW SW Section 8-7n-3e, drilling at 650 feet; D. L. Burtschi No. 1 Fee, SW SE SE Section 19-7n-3e, drilling at 1,400 feet; Cummings and others No. 4 Burtschi, NW SE SE Section 18-7n-3e, location; Shell Petroleum Corp. No. 2 Hopper, SW SE NE Section 18-7n-3e, drilling at 1,467 feet; Thayer Drilling Co. No. 4 Morrison, SW NW NE Section 19-7n-3e, spudded and shut down; Isotex Corp. No. 1 Louis McKenzie, SW NW NE Section 29-7n-3e, moving in rotary; Mabee Drilling Co. No. 2 First National Bank, NW NE SE Section 30-7n-3e, drilling at 1,655 feet; No. 3 First National Bank, SW NE SE Section 30-7n-3e, moving in rotary; Whisenant No. 1 Rex Winkle, 970 feet from south and 525 from east lines of NE quarter Section 20-6n-3e, drilling at 250 feet.

In Crawford County, Mahutska Oil Co. No. 1 C. E. Searcey, 1,225 feet from south and west lines of Section 6-7n-12w, drilling at 100 feet. Kentucky Natural Gas Co. No. 1 Thomas Clapp, SE cor. SW SW Section 19-6n-11w, drilling 250 feet.

In Clinton County Shell Petroleum Corp. No. 8 Criley, NE SE SE Section 35-2n-1w, drilling at 657 feet; Bert Field No. 5 M. & I. R. R., 600 feet from south and 1,120 from east lines Section 13-1n-1w,

STOP POROUS-WELD LEAKS!



(Above)—CROSS SECTION, Style 55 Porous-Weld Clamp. Parts are of sectional construction to permit installation on existing lines. The steel band is stainless.

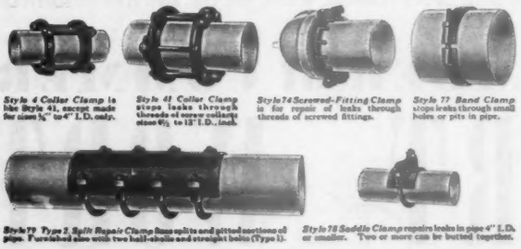
Porous circumferential pipe welds, and small pin-holes and leaks in pipe are quickly stopped with Dresser Style 55 Porous-Weld Clamps, without interrupting service. Repair is inexpensive, permanent, suitable for high working pressures.

DESCRIPTION. Each Style 55 Clamp consists of a few, simple "factory-made" parts (see cross section), which are quickly assembled over the leak with only one tool—a wrench.

SIZES. Style 55 Clamps are available in sizes 1¼" I.D. to 26" O.D., inclusive. (Sizes 4" I.D. and smaller have malleable followers; all other sizes, pressed-steel followers.)

HOW TO ORDER. Give: (1) quantity; (2) nominal size and outside diameter of pipe; (3) style number; (4) service—contents of line; (5) maximum working pressure; and (6) outside diameter and width of weld bead.

OTHER DRESSER REPAIR CLAMPS



Style 4 Collar Clamp is like Style 41, except made for sizes ¼" to 4" I.D. only.

Style 41 Collar Clamp stops leaks through threads of screw collars sizes 6½ to 13" I.D., inch.

Style 74 Screwed-Fitting Clamp is for repair of leaks through threads of screwed fittings.

Style 77 Band Clamp stops leaks through small holes or pits in pipe.

Style 77 Type 2, Split Repair Clamp fits split and gitted sections of pipe. Furnished also with two half-shells and straight bolts (Type 1).

Style 78 Saddle Clamp repairs leaks in pipe 4" I.D. or smaller. Two or more can be butted together.

S. R. DRESSER MFG. CO.

BRADFORD, PA.

In Canada: Dresser Mfg. Company, Ltd., 60 Front St., West, Toronto, Ont.

rotary rigged up; German and others No. 1 E. Witcher, Lot 1 Block 1, Pullen Heights, NW cor. NE SE Section 13-1n-1w, drilling at 1,125 feet; W. B. Smith No. 2 Shaw, Lot 19, Block 4, Pullen Heights, SW cor. NE NW NE Section 24-1n-1w, Benoist sand at 1,371 feet, shot with 10 quarts at 1,379-82 feet, total depth, cleaning out; Iroquois Oil & Gas Co. No. 1 Parish, Lot 9, Block 1, Finney Heights, SE cor. NE NE NE Section 24-1n-1w, spudded; W. H. Nichols No. 1 Dennis, Lot 10, Block 7, Finney Heights, S half SE NE NE Section 24-1n-1w, running 8-inch to 630 feet; Self, Deaton, Morgan and others No. 1 Dodillett, SE SW SW Section 24-1n-1w, deepened from 1,413 feet, found Benoist sand at 1,450 feet and a small showing of oil at 1,490 feet, total depth 1,505 feet, dry and abandoned; W. C. McBride, Inc. No. 1 O. D. Terry, 610 feet from west and 520 from north lines of NE quarter Section 24-1n-1w, drilling at 110 feet.

Completed Wells

Completions in all fields, with their sand records and initial 24-hour production included the following wells:

In Fayette County, Jarvis Brothers No. 2 Sinclair, SW NW NE Section 29-8n-3e, Bethel sand at 1,457-86 feet, shot with 40 quarts, estimated at 600 bbls.; Jarvis Brothers No. 3 Sinclair, NW NW NE Section 29-8n-3e, Benoist sand at 1,447-78 feet, flowed naturally 420 bbls.: J. P. Babcock and others No. 3 Rhodes, SE NW SE Section 27-8n-3e, Bethel sand at 1,583-96 feet, shot with 30 quarts, 100 bbls. of oil and 12 bbls. of water; Jarvis Brothers No. 2 Mize, NW cor. NE NE Section 21-8n-3e, Bethel sand at 1,579-1,610 feet, shot with 50 quarts, flowed an estimated 250 bbls.; E. Frank Jones No. 1 L. Rogers, SE cor. SW SE Section 17-8n-3e, Weller sand at 1,547-70 feet and stray sand at 1,609-10 feet, both barren and the test was dry and abandoned at 1,637 feet; Carter Oil Co. No. 2 Wood, NE NW SW Section 14-8n-3e, Benoist sand at 1,512-32 feet, shot with 40 quarts, pumped 16 bbls. in 21 hours, and cleaned out, after which it flowed 175 bbls. through casing in 24 hours; Carter Oil Co. No. 1 Lem Lilly, SW SE SW Section 14-8n-3e, Benoist sand at 1,579-1,612 feet, plugged back to 1,588 feet, plug drilled and hole shot at 1,581-90 feet, pumped 84 bbls initially; Kingwood Oil Co. and Duncan No. 4 Yolton, SE SW NW Section 7-7n-3e, Stein sand at 1,481-1,523 feet, flowed 60 bbls. a day by heads, but later pumped 214 bbls. in 24 hours; Carter Oil Co. No. 1 Irwin Hobbs, SE SW NE Section 6-7n-3e, Bethel sand at 1,493-1,528 feet, shot with 80 quarts, flowed 610 bbls. in 16 hours through tubing, gravity of the oil 38 degrees at 62° F.

In Richland County, Sylvester and others No. 1 Osborne, SW NW SW Section 26-4n-10e, McClosky pay at 3,091-3,102 feet, flowed 610 bbls. in 21 hours; Sam Raitman No. 1 O'Donnell, NW NE NE Section 27-4n-10e, pay at 3,042-48 feet, acidized with 6,000 gallons, swabbed and flowed 450 bbls. in five days, and then pumped 200 bbls. in 24 hours; Mammoth Producing & Refining Co. No. 2 Brace, NW SW NW Section 28-3n-9e, pay at 3,051-56 feet, acidized with 5,000 gallons, pumped 130 bbls. in 24 hours.

In Marion County, Patoka district, Robin H. Brian, Trustee No. 3 Nottier Heirs, NW SE SE Section 29-4n-1e, Benoist sand at 1,416-40 feet, shot with 30 quarts, 97 bbls. in 16 hours; Adams Oil & Gas Co. No. 4 Balance, SW cor. NW SW Section 28-4n-1e, Benoist sand at 1,432-48 feet, shot with 10 quarts, a 3-bbl. well.

In Marion County, Salem district, the Texas Co. No. 3 Williams, SE SW SW Section 32-2n-2e, Benoist sand at 1,658-94 feet, flowed 600 bbls. naturally through three-quarters inch tubing choke; Loper and others No. 1 McRoberts, SW SE NE Section 32-2n-2e, Benoist sand at 1,735-50 feet, flowed naturally 624 bbls. in 24 hours through tubing choke.

In Clay County, Pure Oil Co. No. 3 Smith, SE NW SW Section 33-3n-8e, pay at 2,961-92 feet, acidized with 5,000 gallons, flowed 507 bbls. in 24 hours.

In Wayne County, Pure Oil Co. No. 1 Billington, SE SE NE Section 27-1n-7e, was temporarily abandoned at 3,495 feet, total depth; Gordon No. 1 Fitch, C W half SW NW Section 11-1n-8e, was an abandoned location.

Clinton County completions with their production: John F. Ryan No. 1 Brinkman, NE SW SE SE Section 13-1n-1w, Benoist sand at 1,352-83 feet, total depth, was shot, and pumped 198 bbls.; Iroquois Oil & Gas Co. and others No. 1 Blackburn, SE NW NE Section 24-1n-1w, Benoist sand 1,370-82 feet, total depth, shot, 150 bbls. of oil; Liner Oil Co. of Louisiana No. 1 Timmons, SE NE NW NE Section 24-1n-1w, Benoist sand 1,378-87 feet, total depth, estimated good for 250 bbls.; Pace & German No. 1 Blanks, NW SW NE NE Section 24-1n-1w, Benoist sand 1,380-86 feet, total depth, estimated 50 bbls.; B. M. Trahan and others No. 1 Nicolay, SW NW NE Section 14-2n-1w, McClosky sand 1,730 feet, total depth 1,785 feet, dry and abandoned; W. C. McBride. Inc. No. 3 Carson, NW NE SE Section 35-2n-1w, Benoist 1,347-72½ feet, total depth, shot, pumped 60 bbls. of oil and 3 bbls. of water in 10 hours.

In Washington County, E. C. Lang No. 1 Paul, NW SE NE Section 29-3s-5w, had Ste. Genevieve formation at 1,072 feet and was dry and abandoned at 1,517 feet, total depth. Salvage Oil & Fuel Co. No. 1 Reinkensmeyer, SE SE NW Section 11-1s-2w, total depth 1,030 feet, dry and abandoned.

In McDonough County, Charles Measley and others No. 1 Falter, NW NE NE SE Section 17-4n-4w, an old pool, had sand at 425-436 feet, total depth, and pumped 1 bbl. of oil daily. W. I. Cole and others No. 1 Williams, NE NW NE SW Section 16-4n-4w, was dry and abandoned at 480 feet, total depth.

In Crawford County, Salvage Oil & Fuel Co. No. 6 McGillis, NE NW NW SW Section 25-8n-13w, had Devonian formation at 2,875 feet and drilled into it to 2,885 feet. It was dry and the hole was abandoned.

In Jefferson County, Carter Oil Co. No. 2 Dobbs, NW SE NW Section 10-1s-2e, found Bethel sand at 1,947-63 feet, total depth, and pumped 240 bbls. of oil and 12 bbls. of water daily.

OHIO

FINDLAY, Ohio, Sept. 12.—Ohio fields yielded 28 completions, 15 gas wells, 3 oil wells, and 10 dry holes in the past week.

In Ashland County, Lake Township, Ohio Fuel Gas Co. No. 1 E. A. Morris, Section 3, is a gas well making 1,700,000 feet from the Clinton sand. Total depth is 3,047 feet.

In Athens County, Ames Township, D. T. Orndoff No. 1 E. S. Linscott, Section 23, is good for 250,000 feet of gas from the Salt sand at 522-35 feet. In Rome Township, Yeoman & Ross No. 13 Sarah J. Parker, Fraction 35, was dry in the Maxon sand. Total depth is 872 feet.

In Guernsey County, Cambridge Township, Cambridge Glass Co. No. 1 A. J. True, third quarter, is a

(Continued on Page 96)

Want a TOUGHER rotary brake LINING?

Get the NEW J-M 420!

THREE important steps in making J-M 420 Rotary Lining are shown in the photo above.

The "cabled" asbestos yarn at the extreme right has been specially processed for extra strength. It is tightly woven into a dense, compact fabric; compressed and impregnated with a newly developed compound that has high resistance to heat. The result is a lining that is giving unusual service on rotary brakes. J-M 420 Rotary Lining has these important advantages:

UNUSUALLY EVEN FEED-OFF, giving better control of drilling . . .

HIGHER BRAKING EFFICIENCY, even at extreme temperatures caused by heavy loads . . .

LONGER LIFE under any conditions . . .

LESS SCORING OF DRUMS, giving longer drum life.

In the short time since the new J-M 420 was introduced, this rugged, lasting lining has sold both owner and driller on its superior braking performance. For full details on J-M 420 Rotary Lining and on all J-M Friction Materials, write Johns-Manville, 22 East 40th Street, New York City.

Johns-Manville 420 ROTARY LINING

Eastern Field Report

By STAFF CORRESPONDENT

200-bbl. Well in Old Field; Fayette Test at 6,798 Feet

PITTSBURGH, Pa., Sept. 12.—The deep test of the L. J. Houze Convex Glass Co. on the Paul Dunham farm on Chestnut Ridge in Springhill Township, Fayette County, Pennsylvania, was successfully cased to 6,687 feet using seamless casing. The casing was landed in cement. It was reported to be in the Onondaga lime which had been topped at 6,628 feet, where the samples showed gray limestone among the black shale cavings and the formation was hard.

At 6,715 feet the samples changed from lime to black shale again and it now presents the typical problem of eastern wildcats to correlate that lime formation which appears to have been in the Marcellus shales with nothing similar having been present in the nearest well over 9 miles on this anticline to the northeast. The test is now drilling a black shale at 6,798 feet.

Completions in the lower eastern fields totaled 24 for the week, of which 7 were dry holes, 11 gas wells, and 6 producers, with a daily initial of 229 bbls., most of which was due to a good producer in West Virginia.

SOUTHEAST OHIO

Two producers, three gas wells and one dry hole were reported from southeast Ohio. In Ashland County, Glen Harmon and others completed 1,500,000-foot gas well on the Elza Charst farm 1½ miles east of Mohican Dam in Section 10, Lake Township, in Clinton sand at a total depth of 3,280 feet. One mile east of this dam in section 3, Lake Township, same operator completed a test on the Noah Emerick farm in the Clinton formation at 3,287 feet. It is good for 200,000 feet of gas per day.

In Licking County, G. S. Lacknett and others completed No. 2 G. C. Mauk in Section 16, Perry Township, in Berea sand at 791 feet. It produced 15 bbls. the first day after a shot. In the same section, John Allen and others completed No. 2 Wright in Berea sand at 732 feet and it is showing for a 2-bbl. pumper.

In Mary Ann Township, Licking County, William Stricker and others completed a test on the J. R. Davis farm in Section 8, in Berea sand at 621 feet. It gauged 125,000 feet of gas per day. In Section 9, of this township, Alexandria Banking Co. and others drilled a test on the Perley Wright farm through the Berea sand to 754 feet and got only a light showing of oil.

SOUTHWEST PENNSYLVANIA

In southwest Pennsylvania, Hanover Township, Beaver County, George Freshwater and J. C. Reed completed a test on the Walter S. Laughlin farm in Berea sand and it is a 1-bbl. pumper. In this township, Scott and Wetzel drilled a test on the Harry Boyd farm through the Berea sand and it was dry.

In Greene County, Equitable Gas Co. deepened No. 1 G. M. Kuhn in Center Township to 3,634 feet. Bayard sand was at 3,620-30 feet with 140,000 feet of gas at 3,621-23 feet. In Green Township, this company is deepening No. 1 W. E. Blaker and passed through the Elizabeth sand at 3,197-3,208 feet with a show of gas at 3,197-98 feet. It is now at 3,243 feet. In Aleppo Township, Burleigh Wright had reached 2,425 feet in the test on the William McVay farm. Cochran and others were shut down at 2,396 feet in No. 4 John Strope. In Monongahela Township, Fred Garrison is drilling at 2,629 feet in the Jane Stoneking test.

In Washington Township, Greene County, Equitable Gas Co. has reached 2,250 feet on the John Huffman farm. In Morris Township, R. E. Hoskinson and others are fishing at 2,100 feet on the C. C. Conklin-H. W. Ealy lease.

In Greene Township, Greene County, H. D. Freeland, deepening No. 1 I. T. Moser, is fishing at 1,670 feet. In Richhill Township, W. L. Walters and others are drilling at 1,270 feet on the Ellsworth Burnsfield farm.

Washington County

In Nottingham Township, Washington County, Beedle, Clark and others are drilling on the Pittsburgh Coal Co. lease. In Fallowfield Township, the Naoma Oil & Gas Co. is shut down at 1,800 feet on the James M. Williams farm.

In North Strabane Township, E. H. and J. B. Tague are drilling No. 8 R. G. Lutton farm below 300 feet. In Buffalo Township, R. M. Duden and others are drilling at 480 feet on the Antonius Provenzand farm.

In Morris Township, Union Gasoline and Oil Corp. is drilling at 2,550 feet in No. 2 G. L. Craft. In South Franklin Township, Hennen and Walker are ready to start the test on the Andrew Holmes farm.

Deep Tests

On Chestnut Ridge, the test of Wasson and Co. on the J. H. Sorg farm in North Union Township, Fayette Township, Fayette County, is drilling at 6,100 feet having been delayed on account of cementing a cave. The Tully lime is expected around 6,200 feet.

In South Union Township, Fayette County, on this anticline, the Peoples Natural Gas Co. has the rig standing for the test on the Piedmont Coal Co. lease. South of this, New Penn Development Co., William E. Snee and others are drilling below 300 feet on the Indian Creek Coal Co.'s William Johnson warrant.

In Beaver County, John T. Galey and others are below 4,300 feet, cleaning the wire and cavings due to an unstranded line, in the test on the Eliza Allen heirs farm in South Beaver Township.

WEST VIRGINIA

In Grant district, Ritchie County, West Virgina, First National Bank of St. Marys (Schultz Oil Co.) completed No. 3 T. C. Hammett in Squaw sand at 1,950 feet and it produced 200 bbls. of oil the first day, most of which was lost, and 175 bbls. the second day run into tanks. This is an offset to the wells on the Merle Carpenter farm which are fair producers.

In Boone County, Pure Oil Co. completed No. 289 on the Williams Coal Co. tract in Sherman district in Berea sand at 3,199 feet. It is an 8-bbl. well.

In Calhoun County, Garrett and Garrett (the Kansas and West Virginia Oil and Gas Co.) completed No. 3 Fogel and Wilson in the Sherman district at 1,724 feet, Maxon sand. It gauges 3 bbls. a day along with 200,000 feet of gas and may be deepened to the Injun sand.

Gas Wells

In Cabell County, Taylor Gas Co. completed a well on the W. H. Holton farm in McComas district at 3,540 feet. It has Berea sand at 2,360-70 feet, and Brown shale at 3,167-3,520 feet. It gauges 92,200 feet a day of gas from the Berea and 65,100 feet a day of gas from the Brown shale.

In Braxton County, No. 7,637 of the Pittsburgh and West Virginia Gas Co. on the M. E. Ramsey farm in Birch district is dry and abandoned at 4,602 feet.

In Marshall County, the test of A. C. Phillips on the H. M. Wellman farm in Cameron district was a dry hole. It was drilled through the fifth sand to 3,395 feet with the Pittsburgh Coal at 980 feet.

In Wayne County, Chartiers Oil Co. second test on the G. T. Saunders farm in Union district is a 220,000-foot gas well at 3,726-31 and 3,740 feet. Corniferous lime was topped at 3,001 feet.

In Wetzel County, George Myers completed a test on the M. P. Wells Lot in Proctor district in Cow Run sand topped at 525 feet, and it produced 440,000 feet of gas a day at 528-536 feet. In this district, Thomas Newton completed a gas well on the D. C. Baumberger farm at 741 feet. Cow Run sand was at 545-555 feet with 144,000 feet of gas at 548-552 feet. In the same district, C. B. Lewis heirs and Wade Miller drilled on the J. J. Ebbert farm through the Maxon sand to 2,107 feet and have a dry hole.

In Wirt County, W. C. Patterson drilled No. 21 Robinson Petroleum Co. tract in Clay district through the Cow Run sand to 540 feet and it was dry and abandoned.

In Wood County, the Yeager and Cunningham test on the Katherine Cunningham farm in Walker district was drilled through the Brown sand to 147 feet and it was dry and abandoned.

Oriskany Gas Field

Three gas wells were completed in the Oriskany gas field in Kanawha County. In the Poca district, United Fuel Gas Co. completed No. 4791 on the W. J. Glass farm at 5,128 feet with a final gauge of 11,309,000 feet a day. In the same district, Geary-Morley Gas Co. completed a test on the Diana J. Milam Heirs at 5,056 feet with the Corniferous lime topped at 4,926 feet and the well gauged 13,880,000 feet a day. The West Virginia Gas Corp. on the Spencer-Canterbury lease in this district was completed at 5,033 feet. Oriskany was topped at 5,014 feet and the final gauge was 4,484,000 feet a day.

Several new locations were made in the Poca district, including United Carbon Co. on the William Moss and others lease, elevation 746.7 feet, and on the J. H. Burdette farm, elevation 757.5 feet, and United Fuel Gas Co. on the Mary R. Miller and others farm.

In Elk district, Kanawha County, the Columbian Carbon Co. topped Corniferous lime at 5,089 feet in No. 12 C. W. Vickers and is drilling at 5,168 feet. This company is drilling at 4,011 feet on the W. B. Fogarty farm; at 2,113 feet on the Bratton Hanna test, and at 1,038 feet on the Ida Hughart land. United Carbon Co. had reached 1,050 feet on the Van Canterbury farm. In Poca district, same company is drilling at 4,898 feet on the I. C. Miller farm, with Corniferous lime topped at 4,882 feet; and at 1,100 feet in the J. H. Prillerman test. The United Fuel Gas Co. shot the apparently dry test on the I. W. Cavender test with 80 quarts and is cleaning out. Same company is drilling at 4,867 feet in No. 4787 Glass; at 4,232 feet in No. 4797 T. F. Good and others; at 4,094 feet in No. 4799 O. V. Milam and others; at 4,282 feet in No. 4800 W. H. Odell and others; at 3,820 feet in No. 4801 Floto Johnson; at 3,126 feet in No. 4802 J. W. Harding and others; at 4,864 feet in No. 4803 Lillie Dawson and others; at 1,707 feet in No. 4804 Odell and Glass; at 1,565 feet in No. 4805 Milam and Odell; at 1,145 feet in No. 4806 J. W. Legg; building the rig for No. 4808 J. H. Baumgardner and No. 4811 S. E. Gibson.

The Mullins Gas Co. topped Corniferous lime at 5,041 feet on the J. C. Fisher and others land and is drilling at 5,058 feet. On the W. H. Odell farm this company is down 4,737 feet; and drilling at 3,260 feet on the Earl K. Johnson test; and at 2,110 feet on the Manfred Fisher and others lease.

The Spartan Gas Co. is drilling at 1,400 feet on the Loca and A. E. Fisher land. Poca Fork Oil & Gas Co. is down 3,020 feet in the Levi Combs test; Glenn Oil & Gas Co, fishing 1,750 feet in the Mary Beaver test; Lima Gas Co. drilling at 2,060 feet on the A. T. Mairs Heirs land. Columbian Carbon Co. topped Corniferous lime at 4,970 feet in the Lena Castro test; was drilling at 4,660 feet on the L. P. Rollins land; at 2,725 feet on the W. H. Odell and others land, and at 1,588 feet on the W. H. Miller and others test.

South Penn Oil Co. started drilling No. 6 T. H.

(Continued on Page 94)

Southwest Texas District

By F. L. SINGLETON

New Pools in McMullen, Jim Hogg and Refugio Counties

CORPUS CHRISTI, Tex., Sept. 12.—Southwest Texas marked up one of its most successful weeks of development, as one new field was opened in Jim Hogg County, and another wildcat further south in Starr County, and on the same trend was preparing to test after recovering several hundred feet of pipe line oil. In Refugio County, I. J. Allen No. 1 Rooke is flowing pipe line oil from a new sand in the Frio zone, converting this distillate field into what appears to be a major discovery.

The three discoveries are considered highly important to future exploration in the district as they provide major extensions to the Frio-Vicksburg trend which now extends southwesterly from Refugio County to Starr County in the Rio Grande area. Since the discovery of the South Alice field in Jim Wells, this particular section of the Jackson trend which flanks the shallow Laredo-Pettus area on the east, has received an extensive leasing and geophysical program which is expected to provide the district with several new pools.

Humble Oil & Refining Co. No. 2 Anna Kelsey Bass, the discovery well of the Kelsey field, Jim Hogg County, flowed at the rate of 151 bbls. of 44.7-gravity oil per day through a quarter-inch choke, with casing pressure 1,500 pounds and tubing pressure 1,200 pounds. The small flow is due to a rather high gas-oil ratio and the company is testing through various chokes in an attempt to correct this condition. Sand showing oil was cored at 4,729-36 feet, and at 4,736-46 feet. Hard sand with no showing was cored at 4,746-48 feet, and shale from 4,748-54 feet, the total depth. Seven-inch casing was cemented on bottom and the well was completed through perforated casing at 4,742-48 feet. The well is located on a block of approximately 30,000 acres centering in the San Rafael Grant, and is the second test to be drilled, being located about 4½ miles southeast of the first test which attempted to blow out.

Starr County Prospect

Approximately 19 miles south of the above test and 5 miles southwest of the LaReforma field in Starr County, Sun Oil Co. was drilling plug preparatory to testing No. 1 McKinney which showed evidence of production on a drill stem test. Shaley sand showing oil was cored at 4,850-51 feet, and oil sand at 4,851-56 feet and at 4,855-59 feet, the total depth. Seven-inch casing was cemented on bottom following a 20-minute drill stem test at 4,842-55 feet, which tested 1,260 feet of 41.8-gravity oil and 90 pounds of working pressure. The well is on a geophysical prospect of several thousand acres centering in Survey No. 242. While the sand section has not been definitely identified, it is believed to be the Frio.

LaRosa Field Looks Better

The newly opened LaRosa field, Refugio County, loomed as a major discovery following the completion of I. J. Allen No. 1 Birdie Rooke which extends the field about 7,000 feet south and opens the first crude production. The well was turned into storage tanks at the close of the week and in the first 24 hours flowed 118 bbls. of 39.8-gravity oil through a one-eighth inch choke. Tubing pressure was 2,375 pounds and casing pressure 2,375 pounds. The hole is bottomed at 5,960 feet and production was obtained by perforating the casing at 5,902-05½ feet. Three sands were logged, two of which showed distillate at 5,300 feet and at 5,873-83 feet. Sand showing oil was cored at 5,893-5,920 feet, with the lower section showing water. The producing sand is the Frio, and corresponds with that of the prolific Tomoconnor field, several miles to the northeast in the same county.

Several trades have been made in the area and an active drilling campaign is anticipated. The Allen well is on a block of approximately 3,600 acres, assembled in the first part of the year. It had been deepened following the completion of No. 2 Rooke which was completed as a distillate producer in the 5,300-foot zone. The area has been a known prospect for a number of years and several deep tests were drilled in the vicinity of the discovery well.

Other interesting developments along this trend included reports of a showing of oil and gas in Smith & McDannald No. 1 Rooney, in northeastern Jim Wells County. Sand with an oil showing was reported cored at 5,417-29 feet, and at 5,620-08 feet, but no drill stem test was made. Late in the week the test was drilling below 5,600 feet. Northeast of Ben Bolt in the W. N. Staples Survey, Humble Oil & Refining Co. has started drilling No. 1 Ben Belitz. North of Alice, in the Ana Maria Vaca League, Magnolia Petroleum Co. No. 1 Martin was abandoned at 6,718 feet.

Nueces' Interesting Test

In Nueces County, Phillips Petroleum Co. is preparing to spud an interesting wildcat about 6 miles southwest of the Clarkwood. It is No. 1 T. F. Mastin in Section 146, Delores I.&A. Survey, about 4 miles southwest of the Baldwin field. Protection acreage is held by various major companies. On the Mustang Island prospect, Texas Co. has spudded No. 1 Little, a projected deep test near the Gulf of Mexico.

Location for another interesting wildcat was made by Housh & Thompson for No. 1 Kent Crane, a projected deep test on the Live Oak Peninsula in Aransas County, in the William Carper Survey, which is scheduled to be drilled to 7,500 feet. The well is on a geophysical prospect of several thousand acres with protection acreage held by Stanolind Oil & Gas Co., Tide Water Associated Oil Co., Humble Oil & Refining Co., Gulf Oil Corp. and several independent operators.

Laredo District

In the Laredo district, two new producers were added to the Fitzsimmons field, Duval County. Houston Oil Co. No. 2 Fitzsimmons flowed 385 bbls. daily through a quarter-inch choke from the discovery pay at 4,300 feet while H. J. Porter No. 2-B Fitzsimmons flowed 146 bbls. per day through a 5/32-inch choke. The well is producing through perforated casing at 4,330-44 feet.

One-half mile southwest of the Hoffman field, W. A. Wagner is preparing to test No. 1 Lampe which has shown evidence of being a small extension producer. The hole is bottomed in sand at 2,807 feet, with 7-inch casing cemented at 2,802 feet.

In McMullen County, Bruce Albright and others opened a shallow Mirando sand field with the completion of No. 1 Nueces Land & Live Stock Co., which made an initial production of 100 bbls. per day, pumping. It is producing from sand at 1,202-13 feet. The field is in the B.S.&F. Survey No. 119 in the southwest corner of the county.

Fault Line Area

In the Balcones Fault Line district, Humble Oil & Refining Co. and Wellington Oil Co. made a location for two important wildcats in Maverick County. They are on the Indio Cattle Co. lease in the Antonio Rivas Grant, about 20 miles southeast of Eagle Pass, along the highly regarded anticline which extends southeasterly into Dimmitt County.

In the Pettus area, Bee County, Atlantic Refining Co. No. 1 Courtney, although not officially completed, can be classified as a pool opener as it is pumping an estimated 3 bbls. of oil per hour from the Pettus sand at 3,658-65 feet, the total depth. Location is in the George Kerr Survey.

Completions of the week, with their sand records or total depth and initial 24-hour production, were as follows:

Aransas County

McCampbell field: Peachtree Oil Co. No. 1 Porterfield, 7,117 feet, 485 bbls., three-sixteenths inch choke.

Caldwell County

Dale field: Ralph Ogden No. 4 Barber, 2,622 feet, 70 bbls., pumping. Salt Flat field: Bertrand No. 1 Hanson, 2,725 feet, 35 bbls. oil, 250 bbls. sulfur water. Luling field: Bruce Albright No. 1 Glassock, 2,186 feet, abandoned. Walnut Creek field: Ted Artz and others No. 1 Gentry, 1,590 feet, 35 bbls. oil, 12 hours, pumping.

Duval County

Benavides field: Argo Oil Corp. No. 4 Bolte, perforated casing 5,327-87 feet, dry gas well. Mid-Continent Oil Co. No. 1 Rodriquez, 5,341 feet, 1,000,000 feet of gas, three-sixteenths inch choke. Seven Sisters field: Reynosa Oil Co. No. 5-A Garza, 1,537 feet, abandoned. Eagle Hill field: Magnolia Petroleum Co. No. 6 Duval County Ranch Co., 2,708 feet, abandoned. Fitzsimmons field: Houston Oil Co. No. 2 Fitzsimmons, perforated casing 4,303-13½ feet, 156 bbls., 12 hours, quarter-inch choke. Collins & Porter No. 1 W. F. Fitzsimmons, perforated casing 4,338-60 feet, 133 bbls., 5/32-inch choke. Hoffman field: Cox & Hamon and others No. 6 Hoffman, sand 2,704-08 feet, 100 bbls., jetting. Cox & Hamon and others No. 19 Cuellar Brothers, sand 2,831-51 feet, 150 bbls., half-inch choke; No. 37 Cuellar Brothers, 2,820 feet, 228 bbls., half-inch choke. Magnolia Petroleum Co. No. 11 Well, sand 2,798-2,811 feet, 9 bbls. per hour, half-inch choke. North Kohler field: Stewart & Nye No. 1 Peters, perforated casing 1,853-60 feet, 70 bbls., swabbing.

Guadalupe County

Darst Creek field: Julia Oil Co. No. 1 Forshage, 2,518 feet, abandoned.

Jim Wells County

South Alice field: H. H. Howell No. 1 H. J. Mosser, perforated casing 4,786-98 feet, 65 bbls., eighth-inch choke. Pitkin & Goldston No. 1-C Lindsay & Reed, perforated casing 5,278-90 feet, 132 bbls., 18½ hours, eighth-inch choke.

McMullen County

Loma Alto field: V. G. Schimmel No. 7 Hagist, 2,429 feet, abandoned.

Nueces County

Agua Dulce field: Union Producing Co. No. 1-A Talbert, perforated casing 4,874-90 feet, 9,100,000 feet of gas. Luby field: Ohio Oil Co. No. 4 Shaeffer, 5,150 feet, 141 bbls., eighth-inch choke. Stanolind Oil & Gas Co. No. 11 Spessard, 5,065 feet, 133 bbls., eighth-inch choke. Sun Oil Co. No. 2 McCann, 5,065 feet, 104 bbls., 7/64-inch choke. West Saxet field: Renward Oil Co. No. 10 Harrington, perforated casing 3,865-69 feet, 131 bbls., jetting.

Refugio County

Refugio field: Houston Oil Co. No. 52 Rooke, perforated casing 6,418-22 feet, 147 bbls., eighth-inch choke. W. R. R. Oil Co. No. 1 Mission River, 4,915 feet, 131 bbls., eighth-inch choke. Tomoconnor field: Copano Oil Co. No. 12-B O'Connor, perforated casing 5,815-25 feet, 595 bbls., quarter-inch choke. Copano Oil Co. No. 19-B O'Connor, perforated casing 5,873-85 feet, 584 bbls., quarter-inch choke. Quintana Petroleum Co. No. 23 Heard, 5,925 feet, 1,365 bbls., three-eighths inch choke.

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North Louisiana, Arkansas

By
GEORGE WEBER

Three Failures in Magnolia Pool; Extend Schuler Field

SHREVEPORT, La., Sept. 12.—The principal developments of importance during the past week of drilling were in South Arkansas. In the Magnolia area of Columbia County, three failures brought a severe setback to development of the oil field, although a fourth test showed as a potential producer. The Schuler field in Union County gained a good east edge producer, and the currently important test in the Village area, Columbia County, just east of the Magnolia field, is undergoing mechanical difficulties. Nevada County has a new oil producing area, in the Nacatoch sand, similar to production in the Irma field nearby.

Production by Pool

Estimated daily gross production all companies week ending September 8:

NORTH LOUISIANA

	Barrels
Bellevue	550
Caddo light	4,070
Caddo heavy	2,420
Converse	500
Cotton Valley heavy	75
Cotton Valley light	*10,625
De Soto and Red River	1,400
Elm Grove	350
Haynesville	3,300
Holly	100
Homer	2,650
Lisbon	11,820
Pleasant Hill	100
Rodessa	34,365
Sarepta-Carterville	†450
Sligo	1,390
Sugar Creek	290
Urania	2,670
Zwolle	3,205
Total	80,330

SOUTH ARKANSAS

Buckner	1,490
Champagnolle	1,040
El Dorado	1,850
Lisbon	270
Miller County	375
Nevada	635
Rodessa	6,220
Schuler	25,275
Smackover light	2,045
Smackover heavy	16,020
Stephens	560
Troy	1,185
Urbana	1,175
Village	215
Total	58,355

Texas side of Rodessa field 31,150 bbls. daily.

*3,730 bbls. is distillate.
†225 bbls. is distillate.

New Nevada Well

The Nevada County wildcat, Texas Canadian Oil Corp., or Paul D. Bowlen No. 1 Stocks, is in NW cor. SW SE Section 9-15s-22w. The test, located 6 miles due north of the Buckner field in Columbia County, was originally slated for a deep lime test to the horizon producing to the south.

Several days ago, however, operators cored the Nacatoch sand at 1,178-1,211 feet, recovery of which showed the 33 feet of sand to be saturated, according to reliable reports. The test was drilled to 1,378 feet and a string of 9⅝-inch casing was set. It was then deepened to 3,654 feet, present total depth, and a second electrical survey was run.

Plugging back to the Nacatoch horizon, operators perforated casing at 1,187-1,203 feet and bailed wash water, drilling mud and oil. At latest reports, the well was bailing about 25 bbls. daily of 12-gravity oil, which is very similar to the production of the Irma and Troy Nacatoch sand.

The test is in the Falcon area, on a graben which has been generally known for several years. It is surrounded by a number of tests drilled in past years. Completion of the well is delayed pending installation of a pumping unit.

Extent of the Magnolia pool of Columbia County is very much in doubt as a result of three failures in outpost tests. The pool consists at present only of the discovery well, Kerr-Lynn No. 1 Barnett, completed several months ago.

The Atlantic Refining Co., after purchasing the discovery well and considerable acreage in the area, began tests on east and west outpost positions. The company's No. 1 Baker, three locations east of the discovery topped the Buckner at 7,548 feet, Big lime at 7,706 feet, and cored the hole to total depth of 7,728 feet without a showing of oil or gas.

Two locations west of the discovery, the same company's No. 1 Harrington topped Buckner at 7,580 feet, Big lime at 7,706 feet and oolitic lime at 7,712 feet and reported no showing. Both tests are shut down.

A third test, Petroleum Finance Co. No. 1 Baker, between the Atlantic No. 1 Baker and the discovery well, and two locations from the latter, topped Buckner at 7,560 feet, Big lime at 7,710 feet and oolitic lime at 7,719 feet also reporting no show of oil or gas. This test has been abandoned at total depth of 7,775 feet.

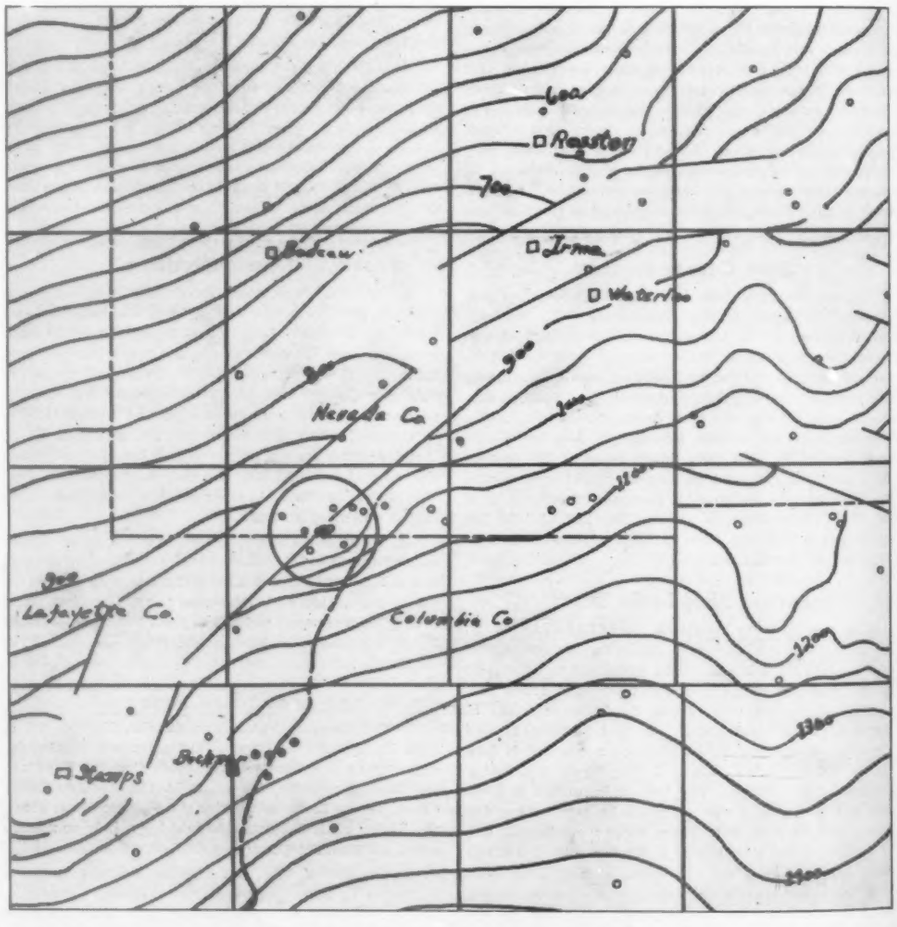
Following the adverse developments of the week in Magnolia, three locations due for drilling were being checked. A north offset location to the Petroleum Finance dry hole was abandoned, drilling was halted on an east offset to discovery, and status of a south offset to discovery is unknown.

An encouraging development, however, was the recovery of a good show of oil in a southeast offset location from the discovery, further complicating prospects in the field. The well, G. H. Vaughn No. 1 Garrett, C NE SE Section 14-17-20, topped Big lime at 7,492 feet and a Schlumberger survey showed porous lime at 7,511-28 feet and 7,540-52 feet. A drill stem test made at 6,534-52 feet, using quarter-inch chokes top and bottom, showed recovery of 1,350 feet of oil in 11 minutes, with working pressure on the drill stem of 44 pounds. Seven-inch casing is being run to 7,552 feet and a production test will be made early in the coming week.

Village Field

A west offset to the discovery in the Village field, Columbia County, Standard Oil Co. of Louisiana No. 1 T. Crumpler, SE cor. SW NW Section 15-17-19, after testing salt water last week, was killed. Cement re-

(Continued on Page 86)



The Falcon graben of south Nevada County, Arkansas, showed oil in the Nacatoch sand this week, as Texas Canadian Oil Co. No. 1 Stock bailed through perforations in the sand. The map shows contours of the top of the Nacatoch, indicating the extent of the graben

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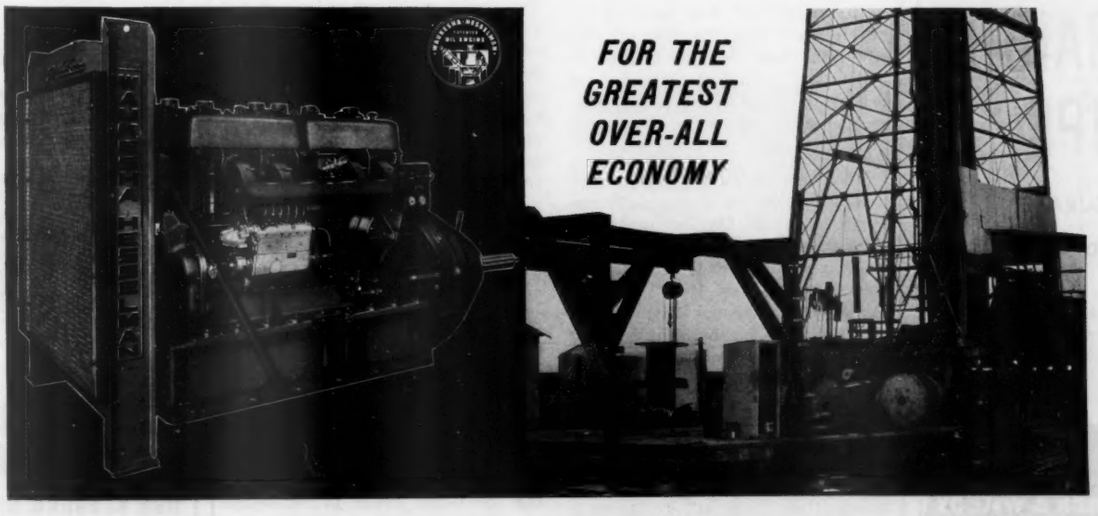

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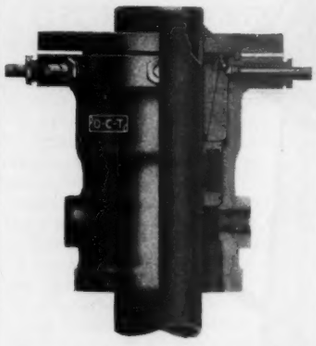

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T-72

Among the Drilling

CORBETT-BARBOUR DRILLING CO., Tulsa, is drilling five wells in Ellis County, Kansas, which were started the first part of August, and setting machinery for two more. These wells are being drilled on a contract for 10 wells for Shell Petroleum Corp., to go to an approximate depth of 3,350 feet. Corbett-Barbour Drilling Co. is also drilling a well in Rice County and another one in Russell County, Kansas for Cities Service Oil Co. Both wells are drilling at about 500 feet; they will be drilled to about 3,200 feet. Corbett-Barbour Drilling Co. is drilling two wells on the McKinley lease of Kewanee Oil Co., in Gray County, Texas; these wells are drilling at about 2,400 feet. They are to be drilled to 3,100 feet.

WIXON DRILLING CO., Eldorado, Kans., is drilling No. 1 Elliott, NE Section 5-31-5, in Kansas for Barnsdall Oil Co.; drilling is going on at 1,300 feet. The well will be drilled to 3,200 feet.

J. B. BARNES DRILLING CO. is drilling No. 1 Conard, NE NW SW Section 33-10-10, Okfuskee County, Oklahoma.

MANAHAN DRILLING CO., Tulsa, is drilling at 7,070 feet in shale in No. 1 Thomas B. Felts, NW Section 35-6-2, Love County, Oklahoma, for Sinclair Prairie Oil Co., which is being drilled to a depth of not more than 7,400 feet. This well was started in February and was held up between April and the end of July when the hole was sidetracked at a depth of 5,415 feet. Trouble was originally caused by stuck drill pipe, necessitating cutting out of two strings of pipe.

HOWELL DRILLING CO. of Tyler, Tex., has received a contract from High Point Oil Co. for drilling a wildcat test southeast of the Flag Lake pool in Henderson County, East Central Texas. It will be No. 1 M. H. White, Thomas Mitchell Survey, 1½ miles northeast of a recent Woodbine sand failure drilled by the same company. The drilling firm is now shutdown for fuel at 2,305 feet at a wildcat for W. G. Martin in the Martin lands, Butler Survey, in Kaufman County, and when the test is completed tools will be moved to the High Point Oil Co. location in Henderson County.

WALSH DRILLING CO. of Odessa, Tex., owned by Walter J. Walsh, one-time rotary driller for Gulf Oil Corp., is drilling an important wildcat in Garza County, West Texas. The test is No. 1 Swenson, Section 25, Block 2, H.&G.N. Survey, in the northeastern part of the county, and is being drilled for Gulf Oil Corp. Contract depth is 8,500 feet and it is drilling below 7,420 feet, which is the deepest test drilled in that part of the state. Garza County has two small producing areas, the Justiceburg and the Garza pools, but both yield from a shallower horizon.

WYNNE DRILLING CO. entered the Leon County, East Central Texas, play when it spudded No. 1 Brown about 1 mile northwest of Keechi in the northern part of the county. Leon County has had several wildcat locations during the past month and a half and indications are seen for an increase in activity over the next few months.

GEORGE CALLIHAN, Abilene, Tex., has received the drilling contract for a wildcat test on a block of acreage held by Union Oil Co. in Nolan County, West Texas. It will be No. 1 R. M. Simmons, Section 57, Block 21, T.&P. Survey, about 5½ miles southeast of Sweetwater. Operators are moving in rig and materials for a 5,100-foot test, according to the contract. The location is 2 miles east of Ajax Drilling Co. No. 1 Withers, the county's single active test, which is shutdown pending continuation to the Palo Pinto horizon at 4,800 feet.

TAUBERT & McKEE, Fort Worth, Tex., will seek expansion of the 2,300-foot production on the extreme southwest side of Jack County's Bryson pool in a test contracted for Aaron Cohen. The well is in acreage owned by the First State Bank of Bryson, and is contracted to 2,350 feet. Cohen has three other producers in the area from the same horizon. Taubert & McKee also have two tests going down for Danciger Oil & Refining Co. and for Nelson Oil Syndicate to the north of the new location.

DANCIGER OIL & REFINING CO. of Fort Worth, Tex., has taken over Jones & Stasney and Groover & Rose No. 1 C. T. Brockman, deep Marble Falls test in Block 95, C.I.R. Survey, in the southwestern part of Throckmorton County, West Central Texas. Operators had been attempting for three weeks to determine the source of salt water which choked the oil flow when the well was opened. The new operators assumed the responsibility of locating and shutting off the water with the agreement that if they were successful they would receive an un-

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divided one-third ownership in the well and the 80 acres on which it is located. Danciger announced late last week the water was coming from the bottom of the hole and it is yet undecided whether the test will be drilled deeper to the Ellenburger, expected in the next 200 feet, or plug back to the Bend series in an attempt to complete it from a slightly saturated section there. The well was first estimated as a 100- to 150-bbl. pool opener from the Marble Falls formation until the salt water encroachment became a problem.

UNGREN & FRAZIER of Abilene, Tex., have staked a new wildcat test a mile east of Avoca and about 2 miles southwest of the Avoca pool in northeastern Jones County, West Central Texas. It will be No. 1 J. M. Griffin Estate, Section 188, B.B.B. &C. Survey. Contract depth is 3,400 feet and acreage near by is held by Iron Mountain Oil Co., Humble Oil & Refining Co., Lewis Production Co., and several individuals.

GLENN M. McCARTHY has moved one of his rotaries 2 miles southwest of League City in Galveston County, Texas, where he is starting drilling operations on F. J. Anderson No. 1 L. Lobit, a projected 9,000-foot hole northwest of the Dickinson field. The well is on a block of several thousand acres centering in the J. M. Perry and E. M. Austin leagues in the northern part of the county.

CONROE DRILLING CO. of Corpus Christi received contract from the Illinois Petroleum Co. for an interesting wildcat to be drilled on the Wilson lease in Section 9, of the George Morris Survey, about 3 miles west of Sinton in San Patricio County, Texas.

HOUSH & THOMPSON are preparing to start drilling operations on a 7,500-foot contract which will be drilled for themselves and others. The wildcat is situated on the Live Oak Peninsula in Aransas County, Texas, about 4 miles northwest of Lockport. The rig was moved from the Hastings field and drilling will get under way next week. The wildcat is on a block of approximately 11,000 acres and will be drilled on the Kent Crane lease in the William Carper Survey.

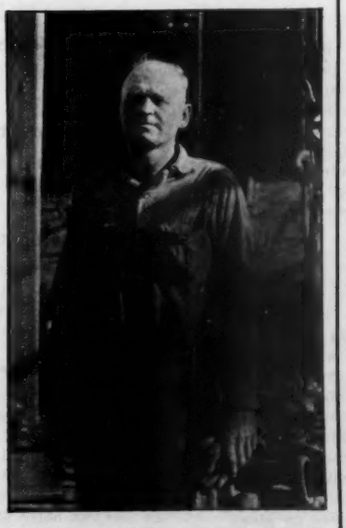
H. M. HARRELL is preparing to test Ohio Oil Co.'s wildcat north of Markham in Matagorda County, Texas, which has the appearance of opening a field. The wildcat is on the W. D. Cornelius lease in the P. C. Yarborough Survey. Sand having a distillate odor was cored at 7,722-40 feet, and 7-inch casing was cemented at 7,759 feet without making a drill stem test.

E. R. KIRKPATRICK has started drilling at Western Gulf Petroleum Co. No. 1 G. Q. Rust, a wildcat 2 miles northwest of Wharton in Wharton County, Texas.

TRINITY DRILLERS, INC., of San Antonio, Tex., received contract from Phillips Petroleum Co. for No. 6 McKinzie in the West Saxet field. Three producers were completed the past week for Lewis Production Co., Continental Oil Co. and W. E. Butler, and drilling continues with three rotaries in Jim Wells, Nueces and Duval counties for Transwestern Oil Co., Carlos Oil Corp. and Al Buchanan.

ALLEN & MORRIS are expected to start new operations in the Kelsey and LaRosa fields in Jim Hogg and Refugio counties, Texas, following completion of Humble Oil & Refining Co. No. 1 Kelsey-Bass in Jim Hogg County and I. J. Allen No. 1 Rooke in Refugio County. Both operations marked up new discoveries for the Southwest Texas district.

ROWAN DRILLING CO. received contract from the Salt Dome Oil Corp. for an 8,500-foot wildcat test to be drilled about 6 miles south of Anahuac in Chambers County, Texas. The well will be drilled on the Dolce Ogden tract in the E. Houthit Survey.



K. M. Parr, driller, Herndon Drilling Co. in Geneseo pool, Kansas

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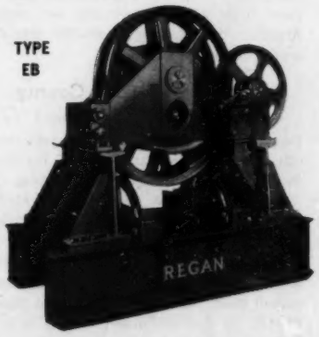

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North and East Texas

By
D. H. STORMONT

Three Pools Shared Interest in North Texas Development

WICHITA FALLS, Tex., Sept. 12.—The K.M.A. pool and the new Canyon Sand pool, both in Wichita County, and the Hull-Silk pool in Archer County all shared in the week's activity in the North Texas district.

The Texas Co., first to announce it, and later joined by the Magnolia Co., have started taking 80 per cent of the daily allowable of K.M.A. wells. This is but little increase, as the 80 per cent runs are under the new five-day-week schedule while the companies were taking 75 per cent under the previous six-day-week schedule. Under the new rule the companies take a top allowable of 25.60 bbls. per day from each well, as against 24 bbls. if the previous rule of 75 per cent had been maintained.

Consolidated Oil Co. No. 1 Griffin, in the southeast quarter of Section 9, Block 7, H.&T.C. Survey, one mile west of production in the K.M.A. field, is preparing to be shot in the pay at 3,965-90 feet. The test is indicating a mile extension to the field. Consolidated Oil Co.'s No. 1 G. B. Ancell, prospective three-mile west extension into Wilbarger County, is drilling plug from casing cemented at 4,070 feet with saturation having been found at 4,080-96 feet.

The recently-discovered Canyon Sand pool in the southern part of the county received a new location and indications of its fourth producer during the past week. King Oil Co. No. 1 Perkins-Collum was bailing mud preparatory to drilling plug. The test, which is a north extension for the area, drilled oil sand from 2,626-28 feet and set casing at 2,626 feet. Another test has been staked 800 feet east by the same operators.

Archer County

The completion of the third well in the 4,300-foot sand in Archer County, and the staking of another test to the same depth, featured developments in the county over the past week.

Blackwell Oil & Gas Co. and Helmerich & Payne No. 3 Wilson, Block 25, A.T.N.C.L. Survey, Hull-Silk pool, flowed at the rate of 50 bbls. of oil per hour. Pay was found at 4,362-77 feet. Chapman & McFarlin of Tulsa, one of the major lease holders in the area, staked their No. 1 L. F. Wilson in Block 26, A.T.N.C.L. Survey as a south offset to the new producer, No. 3 Wilson.

Grayson County

The one-well Collinsville pool of southwestern Grayson County received its second producer and a mile southwest extension when Mildred Oil Co. No. 1 L. C. Neatherly, Charles Qillen Survey, came in for an estimated 200 bbls. of oil daily from sands from 3,862-74 feet. Pumping equipment is now being installed at the producer. A new outpost approximately two miles south of the area has been staked by Jim McMurray and associates as their No. 1 T. J. Long in the James Garland Survey.

EASTERN TEXAS

DALLAS, Tex., Sept. 12.—Activity in the Flag Lake pool of northwestern Henderson County received considerable stimulation over the past week when four new locations were staked. The Texas Co. located No. 1 J. P. Tarkington in the W. K. Newell Survey, about a quarter of a mile southwest of its No. 1 R. L. Tarkington. Lyman Davis located two tests, both in the J. P. Tarkington tract of the W. K. Newell Survey. The Humble Oil & Refining Co. staked No. 2 J. J. Hearne, also in the W. K. Newell Survey. The company's No. 1 Hearne was completed for about 90 bbls. of oil per day.

Two miles west of Athens in Henderson County, McElreath & Suggett abandoned its wildcat on the Dean lands at a total depth of 4,660 feet after failing to find production in the Woodbine sand topped at 4,340 feet.

In Gregg County Humble Oil & Refining Co. and Gulf Oil Corp. No. 1 Horton, in the H. G. Hudson Survey, about 3 miles southwest of Longview, was drilling below 6,500 feet in the Basal Glen Rose. This test is a mile south of the same operators No. 1 Robinson, which was carried to 1,285 feet before being plugged back and completed in the lower Trinity as a small gas producer.

Anderson County received an abandonment when J. J. Gardner No. 1 G. W. West, L. Hopkins Survey, 2 miles southeast of Denison Springs was found barren at a total depth of 5,750 feet.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour tests)

Anderson County

In the Long Lake field, F. H. E. Oil Co. No. 1 M. Morrow, 5,333-39 feet, 75 bbls.; Stanolind Oil & Gas Co. No. 1 Coleman Carter, 5,276-88 feet, 102 bbls. A wildcat, J. H. Gardner No. 1 West, dry and abandoned at 5,750 feet.

Freestone County

In the Cayuga field, J. D. Collins No. 9 E. P. Harwell, 3,995-4,106 feet, 194 bbls.

Henderson County

In the Cayuga field, F. M. Allison No. 3 Wathen, 4,108-4,116 feet, 293 bbls. In the Flag Lake field, Humble Oil & Refining Co. No. 1 Hearne, 3,051-55 feet, 86 bbls. The Texas Co. No. 1 Tarkington, 3,008-31 feet, 45,000,000 feet of gas. A wildcat, McElreath & Suggett No. 1 Dean, dry and abandoned at 4,651 feet.

Titus County

Magnolia Petroleum Co. No. 3 J. A. Chapman, 4,258-4,326 feet, 210 bbls.

EAST TEXAS FIELD COMPLETIONS

(One hour tests)

Smith County

Sinclair Prairie No. 19 R. G. Wright, 3,680-90 feet, 40 bbls.

Rusk County—Joiner Area

Humble Oil & Refining Co. No. 24 W. A. Mullikin, 3,720-49 feet, 82 bbls.; Sun Oil Co. No. 13 S. A. Selman, 3,050-3,748 feet, 32 bbls.

Gregg County—Kilgore Area

Shell Petroleum Corp. No. 79 J. B. Watson, 3,596-3,706, 45 bbls.; Sun Oil Co. No. 32 A. G. Morton, 3,434-59 feet, 60 bbls.; L. J. Wardlaw No. 3 King, 3,542-60 feet, 58 bbls.

Gregg County—Longview Area

Arkansas Fuel Oil Co. No. 11-C McKinley, 3,583-3,609 feet, 64 bbls.; Cities Service Oils No. 21 J. W. Akin, 3,516-3,630 feet, 32 bbls.; Cities Service Oils No. 10 Spurrier, 3,526-3,624 feet, 52 bbls.; Joe Long Drilling Co. No. 30-A W. W. Owens, 3,598-3,608 feet, 50 bbls.; Joe Long Drilling Co. No. 38 W. W. Owens, 3,578-84 feet, 48 bbls.; Shell Petroleum Corp. No. 11 R. L. Bassham, 3,563-3,680 feet, 44 bbls.; Shell Petroleum Corp. No. 19 T. D. Stinchcomb, 3,458-3,552 feet, 56 bbls.; Stanolind Oil & Gas Co. No. 64-B J. C. & R. S. McKinley, 3,590-3,632 feet, 47 bbls.; Tide Water Associated Oil Co. No. 31 J. J. Castleberry, 3,583-94 feet, 45 bbls.

Upshur County—Longview Area

Humble Oil & Refining Co. No. 13 E. Edwards, 3,620-3,700 feet, 32 bbls.; Foxwood Oil Co. No. 3 A. J. Sanders, 3,600-02 feet, 35 bbls.

NORTH TEXAS DISTRICT

Wichita County

Haberle & Thornton No. 2 First National Co. B, 3,624-3,880 feet, 400 bbls.; Haberle & Thornton No. 3 First National Co. B, 3,646-3,715 feet, 400 bbls.; W. E. Hammon No. 1 Mrs. H. Lalk, 2,025 feet, dry; Hammon, Hanlon-Buchanan, Inc. No. 12 Fassett & Tuttle, 3,925-4,002 feet, 912 bbls.; Hammon, Hanlon-Buchanan, Inc., No. 13 Fassett & Tuttle, 3,915-4,009 feet, 1,008 bbls.; Hammon, Hanlon-Buchanan, Inc., No. 14 Fassett & Tuttle, 3,933-4,008 feet, 560 bbls.; Hamon, Hanlon-Buchanan, Inc. No. 18 Fassett & Tuttle, 3,973-4,041 feet, 720 bbls.; W. T. Hoppes No. 4 J. A. Seay B, 3,635-3,870 feet, 1,280 bbls.; T. F. Hunter No. 43 Waggoner A, 3,777-3,937 feet, 480 bbls.; Kadane-Griffith Oil Co. No. 5 Mrs. Anna Mangold B, 3,693-3,812 feet, 816 bbls.; King Oil Co. No. 3 Charles Pettit, 3,820-3,858 feet, 1,800 bbls.; King Oil Co. No. 3 S. W. Wigley A, 3,758-3,878 feet, 720 bbls.; Lincoln & Moore No. 4 Munger B, 3,700-3,872 feet, 608 bbls.; Magnolia Petroleum Co. No. 3 R. L. Kempner B, 3,792-3,848 feet, 249 bbls.; McCutchin Alex No. 3 L. C. Denny, 3,816-3,917 feet, 716 bbls.; McCutchin Drilling Co. No. 1 J. L. & T. J. Waggoner, 3,812-3,912 feet, 560 bbls.; Charles M. McDonald No. 2 Sue Mitchell, 3,902-32 feet, 680 bbls.; Mitchell Oil Co. No. 2 Sue Mitchell, abandoned location; Mogren & Anderson No. 9 C. A. Mertens, 925-44 feet, 7 bbls.; Moran Bros., Inc. No. 1 T. L. Burnett, 4,290 feet, dry; Murchison & Cranfill No. 4 J. L. & T. J. Waggoner, 3,762-3,918 feet, 500 bbls.; W. B. Omohundro No. 12 D. E. Hooks, 3,762-3,841 feet, 720 bbls.; Pois & Schulz No. 1 Ed Foster M, 1,949 feet, dry; George B. Ray and others No. 2 J. L. & T. J. Waggoner B, 3,768-3,803 feet, 712 bbls.; D. M. Ross No. 23 Sue Mitchell, 3,826-78 feet, 496 bbls.; Shell Petroleum Corp. No. 2 R. L. Kempner, 3,800-79 feet, 523 bbls.; Staniforth No. 4 N. H. Martin, abandoned location; Sunray Oil Co. No. 1 L. C. Denny, 3,800-92 feet, 300 bbls.; Sam K. Viersen No. 3 R. L. Kempner B, 3,814-71 feet 523 bbls.; George J. Greer No. 2 S. Mitchell, 3,835-63 feet, 640 bbls.

Wilbarger County

Golding & Cochran No. 3 W. T. Waggoner S, 1,507-1,940 feet, 15 bbls.; W. H. Peckham No. 1 Waggoner, 4,027 feet, dry; Phillips Petroleum Co. No. 2 Waggoner King, 2,998-99 feet, 125 bbls.; Target Drilling Co. No. 1 W. T. Waggoner, 4,417 feet, dry.

Young County

Bridwell Oil Co. No. 3 Allen Williams, 602-55 feet, 50 bbls.; F. A. Gillispie & Son No. 1 McBee Heirs, abandoned location; Gorsuch Oil Co. No. 27 Mrs. O. W. Mathews, 715-17 feet, 10 bbls.; Hardy Oil Co. No. 15 S. M. J. Benson, 775-975 feet, dry; Honest Oil Co. No. 1 S. L. Scott, 830 feet, dry; C. E. Knox No. 5 Mrs. E. Taylor A, 3,890-3,934 feet, 657 bbls.; D. M. Knox No. 1 Wils Copeland, 4,070 feet dry; Pemeta Oil Co. No. 9 Y. Swain, 705-08 feet, 10 bbls.; B. F. Qualls No. 1 T. L. Richardson, 696-710 feet, 80 bbls.; Sams & Watson No. 6 F. M. Cullers, 568-628 feet, 10 bbls.; Robert E. Sweeney No. 1 J. A. Hutchins, 550 feet, dry.

Kansas Developments

By
DAL DALRYMPLE

Pools in Barton, McPherson, Stafford Counties Extended

Extension of the Ainsworth pool in Barton County, Kansas, was assured at Western Kansas Oil & Refining Co. No. 1 Reiff, SW SW SE Section 35-16-13w, one-half mile northeast of production. It cored saturation in Arbuckle lime at 3,319-22 feet, total depth, and 7 inch casing was set on top of lime. Operators were due to drill plug and test.

A one-half mile northeastern extension of the Richardson pool in Stafford County also appeared imminent at Republic Natural Gas Co. No. 1 Hart, NW SW SE Section 20-22-11w. It had saturation in Arbuckle formation at 3,619-21 feet, total depth, and 7-inch casing was set on top of lime. It was being standardized preparatory to drilling in.

The Chindberg pool in McPherson County was extended one-fourth mile westward at Dickey Oil Co. No. 1 Matthews, NE NW SW Section 24-19-3w. Chat was topped at 2,975 feet, 7-inch casing was set at 2,980 feet and oil rose to top of casing, accompanied by an estimated 2,000,000 feet of gas. It was reported running higher structurally than nearest producers.

A new Mississippi lime producing area apparently had been opened in Butler County at Pryor & Lockhart No. 1 Lietzke, NE SW NW Section 24-28-7, wildcat 1½ miles east of the Brandt pool. It found lime at 2,740 feet, with first oil at 2,753-58 feet, and was estimated good for 12 bbls. of oil daily, naturally. It was bottomed at 2,760 feet.

A Cowley County outpost opened a new Kansas City lime area 2½ miles north of Wilmont and 11 miles northeast of Winfield. It was Phelps & Spencer No. 1 Dunbar, NE NE SW Section 29-30-5. At total depth of 2,260 feet in the Kansas City formation, it was acidized and pumped 49 bbls. of oil in six hours.

The Oriental Oil Co. No. 2 Tenney, NE NE SW Section 19-18-25w, Aldrich area, Ness County, has not been abandoned as announced, according to the operators. They report that water has been shut off and a new pumping unit is being installed to produce the well.

Wildcat Reports

The Tate pool opener in Sumner County was listed as a completion the past week. It was S. A. Murphy and others No. 1 Tate, SE SE NW Section 31-32-2e. It had Simpson sand pay at 3,726-34 feet, total depth 3,740 feet, was shot, pumped 60 bbls. of oil the first 4 hours, 59 bbls. the next 4 hours and made potential of 353 bbls. of 41.5 gravity oil. It had Stalnaker sand at 2,380-2,480 feet; Kansas City lime 2,828 feet; Chat 3,372 feet; based Mississippi lime at 3,645 feet, and topped Simpson zone at 3,696 feet .

J. J. Hall No. 1-A Kruse, SE SE NE Section 3-10-16w, revived the old Kruse area in Rooks County. It entered Lansing-Kansas City lime at 3,072 feet, had pay at 3,115-21 feet, total depth 3,212 feet, plugged back to 3,121 feet and acidized. It made potential of 161 bbls. of 39.2 gravity oil, with a trace of water. Location is one-half mile southeast of a well that produced a small amount of oil for a short time but was abandoned in 1929, when operators attempted to deepen it and tools became stuck in the hole.

Sinclair Prairie Oil Co. No. 1 McKinley A, SW SW NW Section 26-18-26w, Ness County wildcat, topped Mississippi lime at 4,466 feet and was dry and abandoned at 4,709 feet, total depth.

Newbold & Springrose No. 1 Walker, NE NE SW Section 24-24-12w, wildcat in Stafford County, had Arbuckle lime at 4,071 feet and was dry and abandoned at 4,101 feet, total depth.

Valerius & Marshall No. 1 Schiereks, C SE Section 8-18-30w, location for a wildcat in Lane County, was reported abandoned.

Western Kansas Oil & Refining Co. and others No. 1 Union, NW NE SW Section 18-17-1w, wildcat in McPherson County, was moving in material. Tide Water Associated Oil Co. No. 1 Stockli, NW NW NE Section 28-23-5, Butler County wildcat, was rigging up rotary. Ben Gralapp & Continental Oil Co. No. 1 Community, NW cor. Section 23-32-5, wildcat in Cowley County, was a rig. Fleming and others No. 1 Central Life, SW cor. Section 27-24-15, Woodson County wildcat, was drilling below 505 feet.

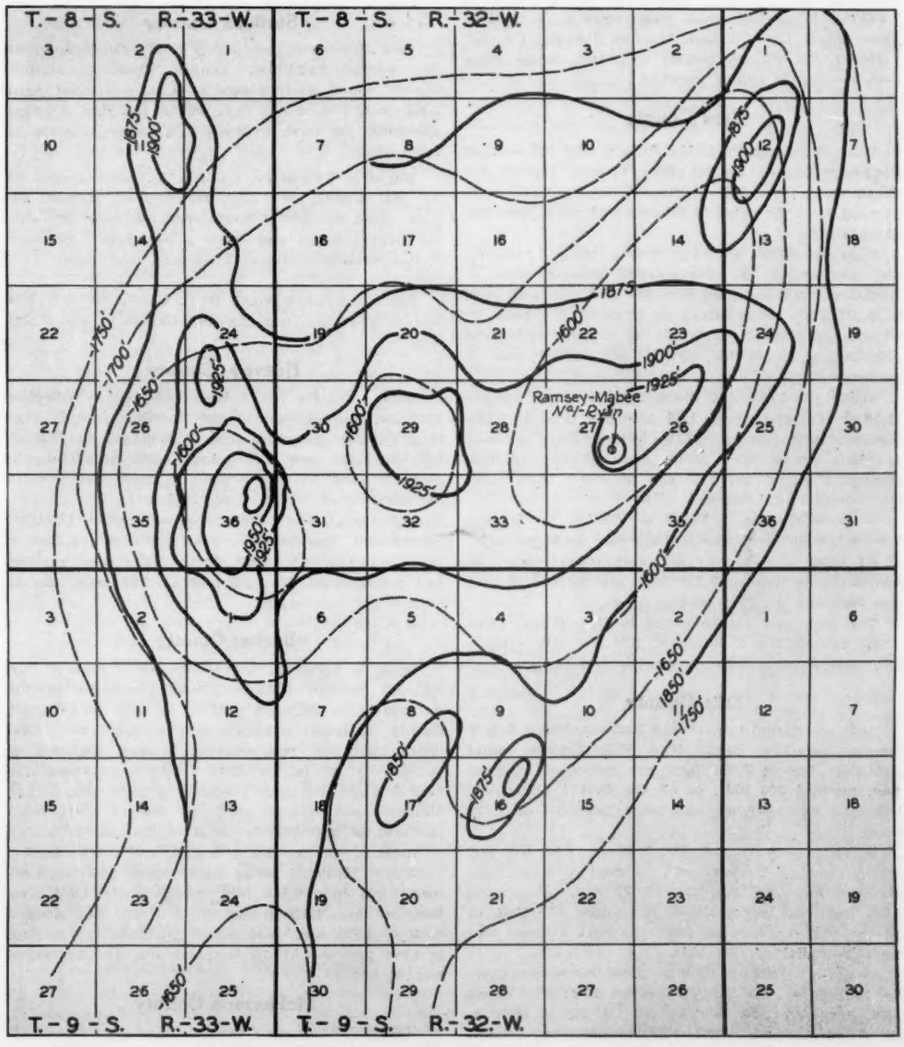
Barton County

Shell Petroleum Corp. No. 3 Hoffman C, CE½ E½ SE Section 1-16-14w, Trapp field, Barton County, found Arbuckle lime at 3,339 feet, total depth 3,359 feet, was acidized, pumped 350 bbls. of oil the first 4 hours, 306 bbls. the next 4 hours and made potential of 1,839 bbls.

Shell Petroleum Corp. No. 6 Hoffman A, NW SE SW Section 7-16-13w, South Trapp area, had Arbuckle lime at 3,345 feet and was bottomed at 3,363 feet. After treating with acid, it pumped 350 bbls. of oil the first 4 hours, 322 bbls. the next 4 hours and was rated potentially at 1,933 bbls.

Same company's No. 7 Hoffman A, SW NE SW Section 7-16-13w, was acidized and pumped 421 bbls. of oil the first 4 hours, 372 bbls. the next 4 hours and made potential of 2,231 bbls. Production was from Arbuckle lime topped at 3,339 feet, total depth 3,354 feet.

In the Ainsworth area, Western Kansas Oil & Refining Co. No. 3 Linsner, CW½ W½ SE Section



Seismograph survey of Solomon Valley domes, Thomas County, Kansas, where Ramsey & Mabee are drilling No. 1 Ryan, Section 27-8-32w, made by Pioneer Exploration Co. of San Antonio. The 1900 contours on base of Fort Hays limestone shown by dark, solid lines; light, broken lines represent —1700 contours on Pennsylvanian-pre-Pennsylvanian contact. Checked reflections on base of the Fort Hays, Comanchean, thin dolomite in upper Permian, gypsum in Permian, anhydrite marker, limestone in Big Blue, Lansing and pre-Pennsylvanian. Contours on pre-Pennsylvanian probably represent reflections from both Mississippian and Ordovician, showing truncation of pre-Pennsylvanian

3-17-13w, topped Arbuckle lime at 3,392 feet, total depth 3,404 feet, swabbed 276 bbls. of oil in 13 hours and was acidized. It pumped 456 bbls. of oil the first 4 hours, 458 bbls. the next 4 hours and made potential of 2,734 bbls.

Gulf Oil Corp. No. 1 Spanier B, NW SW SW Section 12-20-11w, Silica field, topped Arbuckle lime at 3,263 feet and was bottomed at 3,273 feet. It swabbed 420 bbls. of oil in 8 hours and was acidized. It pumped 422 bbls. and 423 bbls. of oil in successive 4-hour tests and made potential of 2,534 bbls.

Indian Territory Illuminating Oil Co. No. 10 Bryant A, CS½ N½ NW Section 25-20-11w, South Silica district, was rated potentially at 2,514 bbls. of oil daily after pumping 419 bbls. the first 4 hours and 426 bbls. the next 4 hours. Arbuckle lime was topped at 3,252 feet, total depth 3,266 feet.

C. E. Ash No. 1 Schartz B, NW NE SW Section 7-20-11w, had Arbuckle lime at 3,325-45 feet, total depth, pumped 122 bbls. of oil the first 4 hours, 92 bbls. the next 4 hours and made potential of 555 bbls. of oil, following acidization. Gravity of the oil was 40 degrees.

Stanolind Oil & Gas Co. No. 1 Musenberg, NE cor. Section 27-20-11w, was dry and abandoned at 3,326 feet, total depth.

New work in Barton County: Cities Service Oil Co. No. 1 Bauman, NW NW SW Section 6-16-13w, Trapp area, moving in material; Shell Petroleum Corp. No. 4 Stettinger, CE½ W½ SE Section 1-16-14w, location; same company's No. 2 Hoffman B, NE cor. Section 12-16-14w, location; same company's No. 8 Hoffman A, SE NW SW Section 7-16-13w, South Trapp sector, location; Texas Co. No. 1 Koch, NE NW SW Section 7-20-11w, West Ellinwood pool, rigging up rotary; Lario Oil & Gas Co. and Atlantic Refining Co. No. 1 Resler, SE NE SW Section 23-20-11w, South Silica pool, moving in rotary material.

Rice County

Shell Petroleum Corp. No. 6 Zajic, NE NE Section 13-18-8w, Geneseo district, Rice County, topped Arbuckle lime at 3,180 feet, total depth 3,216 feet, pumped 848 bbls. of oil in 8 hours and made potential of 2,544 bbls. of oil.

Continental Oil Co. and others No. 3 Johnson, SW cor. Section 12-18-8w, entered Arbuckle lime at 3,212 feet, was bottomed at 3,240 feet, plugged back to 3,237 feet and acidized. It pumped 209 bbls. of oil the first 5 hours, 344 bbls. in 8 hours and made potential of 1,033 bbls. Gravity of the oil was 40 degrees.

Skelly Oil Co. No. 1 Siedd, NW NW SW Section 27-19-9w, Campbell pool, had Arbuckle lime at 3,188 feet, was bottomed at 3,217½ feet, acidized, pumped 214 bbls. of oil in 5 hours and on potential test pumped 174 bbls. and 183 bbls. in 4-hour tests, making potential of 1,043 bbls.

Saco Oil Co. No. 1 Foote B, NE NE SE Section 7-20-9w, Chase area, was acidized and made potential of 64 bbls. of 46-gravity oil, with much water. It had Arbuckle lime at 3,272 feet, pay 3,276 feet, and was bottomed at 3,308 feet.

The only new test reported in Rice County was J. H. Tatlock No. 1 Burchart, SW SW NW Section 18-20-10w, South Silica area, rigging up rotary.

Ellis County

Shell Petroleum Corp. No. 9 Rumsey, NW NE NW Section 23-11-17w, Bemis field, Ellis County, found Arbuckle lime at 3,357 feet, was bottomed at 3,368 feet, pumped 500 bbls. of oil the first 4 hours, 455 bbls. the next 4 hours and made potential of 2,729 bbls.

Atlantic Refining Co. No. 1 Ubert, NW NW NE Section 12-13-18w, Ubert pool, entered Arbuckle lime at 3,597 feet, had pay at 3,621-23 feet, total depth 3,627 feet, and was acidized. It pumped 117 bbls. of oil the first 4 hours, 66 bbls. the next 4 hours and made potential of 399 bbls.

New work in Ellis County: Shell Petroleum Corp. No. 12 Rumsey, SW SE NW Section 23-11-17w, Bemis field, location; Cities Service Oil Co. No. 3 Hall A, SW SE SW Section 14-11-17w, location; J. J. Hall and others No. 5 Oswald B, NW SW SE Section 11-12-16w, Blue Hill pool, rigging up.

Ellsworth County

Atlantic Refining Co. No. 1 Daugherty, SW SW NW Section 33-17-10w, one-half mile north of the Stumps pool in Ellsworth County, found Arbuckle lime at 3,249 feet, had best pay at 3,266-70 feet, total depth, and swabbed 182 bbls. of oil naturally in 8 hours. It was acidized, pumped 164 bbls. of 41.5-gravity oil the first 4 hours, 114 bbls. the next 4 hours and made potential of 678 bbls.

Continental Oil Co. and others No. 1 Janzen, SW cor. Section 22-17-8w, Edwards pool, pumped 356 bbls. of oil the first 4 hours, 305 bbls. the next 4 hours and was rated potentially at 1,833 bbls. Production was from Arbuckle lime at 3,210 feet, total depth 3,250 feet.

Three new tests in Ellsworth County were reported. Spencer & Yarnell No. 2 Gemeinhardt, SW cor. Section 31-17-10w, Bloomer field, was moving in material. Cities Service Oil Co. and others No. 1 Mollhagen D, NE NE SE Section 30-17-9w, Schroeder pool, was a location. Continental Oil Co. and others No. 1 Baker, SE cor. Section 21-17-8w, was a location.

Russell County

Skelly Oil Co. No. 9 Neidens, NW SE NE Section 32-15-13w, Trapp field, Russell County, had Arbuckle lime at 3,335-42 feet, total depth, was acidized, pumped 471 bbls. of oil the first 4 hours, 408 bbls. the next 4 hours and made potential of 2,445 bbls.

Phillips Petroleum Co. No. 2 Michel, SE SW NW Section 36-14-14w, was acidized and made potential of 72 bbls. of 36-gravity oil. It had Topeka lime pay at 2,852-63 feet, total depth 2,924 feet, and plugged back to 2,877 feet.

Skelly Oil Co. No. 10 Neidens, NE SE NE Section 32-15-13w, Trapp field, was moving in rotary material.

Stafford County

Jack Robertson and others No. 1 Community, SE cor. Section 14-24-11w, Zenith Townsite, Stafford County, found Misener sand at 3,793 feet, total depth 3,815 feet, flowed 466 bbls. of oil the first 4 hours, 453 bbls. the next 4 hours and made potential of 2,720 bbls.

Magnolia Petroleum Co. No. 2 Mattie Gates, SE NE NE Section 34-21-13w, Gates pool, pumped 247 bbls. of oil the first 4 hours after acidizing, 307 bbls. the next 4 hours and made potential of 1,480 bbls. It had Arbuckle lime at 3,653 feet, total depth 3,660 feet.

Same company's No. 2 R. C. Gates, SW NW NW Section 35-21-13w, was running 13-inch casing at 245 feet.

Harvey County

Sunray Oil Co. No. 1 Hege, SW NW SW Section 13-22-2w, an old well in the Sperling pool, Harvey County, was deepened from 2,960 feet to Hunton lime at 3,247 feet, total depth 3,283 feet, and was plugged back to 3,280 feet. It made potential of 542 bbls. of oil and was recompleted.

Ohio Oil Co. No. 2 Hege, SW cor. Section 13-22-2w, an old well, was deepened from 2,960 feet to Hunton lime at 3,249 feet, total depth 3,275 feet, acidized and recompleted for potential of 164 bbls. of oil, with 8 per cent water.

Barber County

Pryor & Lockhart and others No. 1 Gant C, NE NE NE Section 18-31-13w, was completed as the Arbuckle lime discovery well in the Gant pool, Barber County. It found Arbuckle lime at 4,607 feet, total depth 4,611 feet, was acidized, pumped 202 bbls. of 29.5-gravity oil in the first 4 hours, 234 bbls. the next 4 hours and made potential of 1,211 bbls. It had Simpson sand at 4,505 feet, and showed for a small producer of high-gravity oil from that formation.

Barbara Oil Co. No. 3 Angell, CW½ SW Section 14-33-13w, Medicine Lodge field, topped Chat at 4,485 feet, Viola lime 4,856 feet, Sylvan shale 4,954 feet, Simpson sand 4,978-80 feet, total depth, and plugged back to 4,876 feet when water intruded. It was shot in Chat pay at 4,515-70 feet and produced 14,000,000 feet of gas.

McPherson County

Hutchinson Oil & Gas Co. No. 2 Unruh, C NE SW Section 25-19-2w, Ritz-Canton field, McPherson County, had Chat pay at 2,956 feet, total depth 2,977 feet, water intruded and it was plugged back to 2,969 feet. It was acidized and made potential of 50 bbls. of oil daily, with 50 bbls. of water daily.

McPherson Drilling Co. No. 1 Ostlind, C NE SE Section 10-19-2w, was rigging up rotary. Jay Kornfeld and others No. 1-A Becker, NE SE NE Section 36-19-2w, was moving in material.

Marion County

Progressive Oil Co. No. 1 Evans, SE SW SE Section 33-22-4e, Elbing area, Marion County, had Lansing lime at 1,859 feet, total depth 2,125 feet, was acidized and pumped 5 bbls. of oil and 60 bbls. of water in 24 hours, completed.

Sedgwick County

Prunty Production Co. No. 2 Rausch A, SW SW SE Section 16-25-1e, Goodrich pool, Sedgwick County, found Chat at 2,994 feet, total depth 3,345 feet, plugged back to 3,050 feet, shot in Chat pay at 2,994-99 feet, and was acidized. It pumped 214 bbls. of oil the first 4 hours, 204 bbls. the next 4 hours and made potential of 1,223 bbls. with 50 per cent water.

Greenwood County

James Enright No. 1 Swanson, CE½ E½ SE Section 20-23-13, Hilltop area, Greenwood County, had a hole full of water and was abandoned at 1,677 feet, total depth.

Woodson County

Nathan and others No. 1 Daniel, NW NE NW Section 13-26-14, was a machine for a new Woodson County test.

Butler County

Cox & McGinnis and Saco Oil Co. No. 1 Augustine, SW SE NE Section 1-25-3e, Potwain area, Butler County, topped Kansas City lime at 2,195 feet, total depth 2,664 feet, was acidized and completed for potential of 287 bbls. of oil, after pumping 575 bbls. of oil in 48 hours.

Same operators' No. 2 Augustine, NE SE NE Section 1-25-3e, was a machine. Rex & Morris No. 1-A Farner, NE SW NW Section 8-28-7, was drilling below 1,560 feet.

Estimated Daily Production

Estimated daily production for Kansas for the week ending September 10, and for the preceding week was as follows:

	Barrels	
	Sept. 10	Sept. 3
Oxford City	1,225	2,625
Burrton	9,400	9,275
Ritz-Canton	4,300	6,975
Graber	1,475	2,975
Hollow-Nikkel	3,025	2,875
Lerado	750	975
Voshell	1,975	2,550
Wellington	3,200	2,300
Ellsworth County:		
Lorraine	1,825	1,975
Other pools	805	1,395
Rice-Barton counties:		
Bloomer	1,675	2,150
Chase	4,350	4,925
Geneseo	2,475	3,100
Raymond	75	1,000
Silica	6,950	10,900
South Silica	1,950	1,650
Keesling	700	750
Wherry	2,675	2,400
Miscellaneous Barton	6,560	6,580
Miscellaneous Rice	4,225	4,270
Russell County:		
Fairport	1,670	1,980
Gorham	2,080	1,100
Russell	1,035	970
Sullivan	4,170	4,890
Trapp	8,020	8,460
Miscellaneous Russell	7,085	6,670
Sedgwick County:		
Valley Center	1,050	1,050
Miscellaneous	2,870	2,710
Ellis County:		
Bemis	5,800	3,855
Miscellaneous	3,315	2,515
Kingman County	460	550
Stafford County	3,100	4,165
Greenwood County	9,275	9,450
Butler County	17,650	18,250
Other fields	26,405	22,940
Total Kansas	154,300	161,200

Southwest Texas Fields

(Continued from Page 77)

Union Producing Co. No. 4-A Lambert, 5,857 feet, 5,100,000 feet of gas.

Victoria-Calhoun Counties

Heyser field: Humble Oil & Refining Co. No. 9 H. Marshall, 5,478 feet, 14 bbls., three-sixteenths inch choke. Sinclair Prairie Oil Co. No. 16 W. H. Bennett, perforated casing 5,558-62 feet, 126 bbls., 9/64-inch choke.

Zapata County

Escobas field: Texas Co. No. 119 Measles, 1,299 feet, 15 bbls., pumping.

Texas and Louisiana Gulf

By
NEIL WILLIAMS

Another Dome Field Opened in Louisiana Coastal District

HOUSTON, Tex., Sept. 12.—The opening of prolific production on the Chacahoula Salt dome, Lafourche Parish, Coastal Louisiana, and the testing of two wildcats in Galveston and Matagorda counties which have shown promise of distillate production, were the outstanding developments along the Gulf Coast the past week.

Sun Oil Co. No. 1 Dibert, Stark and Brown Cypress Co. on the southeast flank of the Chacahoula Salt dome, northwest Lafourche Parish, is flowing through a quarter-inch choke at the rate of 22 bbls. of 33 gravity oil per hour, with tubing and casing pressure equalized at 1,100 pounds. This well showed promise of production last week when it topped sand showing oil at 7,240 feet, and cored to a total depth of 7,253 feet, where a 15-minute drill stem test showed 13 stands of oil. This is the first deep test drilled on the dome which was discovered by reflection seismograph in 1926. Several shallow tests were drilled on top of the dome, but no commercial production was ever developed. Chacahoula is one of many known nonproductive salt domes in Coastal Louisiana which have been added to the list of productive fields by the development of flank sands.

In the Bayou Des Allemands field, St. Charles-Lafourche parishes, Amerada Petroleum Corp. No. 2 St. Charles Land Co., Section 13-15s-20e, topped salt at 9,294 feet and the hole has been plugged back to 8,999 feet, where it will be sidetracked. This is the third test to drill into the salt. Amerada No. 1 Gheens Realty Co., Section 55-15s-20e is coring in sandy shale with a slight oil showing at 7,679 feet. A good sand section showing oil was cored last week at intervals from 7,215 to 7,288 feet.

A Disappointment

Prospects of opening a major extension to the Gibson field, Terrebonne Parish, were not encouraging as Shell Petroleum Corp. No. 1 Kuntz, three-quarters of a mile south of production in Section 40-17s-15e, showed salt water on a drill stem test through perforated casing at 9,093-95 feet. The discovery horizon is developed from 9,300 to 9,500 feet.

On the West Lake Verrett prospect, St. Martin Parish, Shell Petroleum Corp. is dredging canal for a second wildcat following the abandonment of No. 1 Jeanerette Lumber Co., Section 14-14s-12e. The hole was drilled to a total depth of 10,500 feet and several attempts were made to complete in sand at 6,900 feet. The new test, No. 1 Hazel Burdin, is in section 15-14s-12e, about one mile from the abandoned hole.

In the Jeanerette field, St. Mary Parish, Herton Oil Co. is making a production test in No. 1-A Roane Sugar Co., Section 38-13s-9e. The hole is bottomed at a sidetracked depth of 10,615 feet and is being tested through perforated casing at 10,598-10,612 feet.

Magnolia Petroleum Co. No. 1 Reese, Section 5-12s-1w, the second well drilled in the recently opened West Gueydan pool, Vermilion Parish, was abandoned at 7,644 feet after no oil indications were logged in the discovery zone at 7,500 feet.

On the Hester salt dome, St. James Parish, Continental Oil Co. abandoned No. 1 Colonial Sugar Co., Section 46-12s-5e, after salt was drilled at 9,525 feet. This is the second test to encounter the salt formation.

Along Texas Coast

Along the Texas Coast, Ohio Oil Co. was preparing for a production test at No. 1 W. D. Cornelius, a wildcat north of Markham and about 5½ miles south of Bay City, Matagorda County. Seven-inch casing was cemented 1 foot off bottom at 7,759 feet, after showings of oil and gas were logged in several cores at 7,308-7,742 feet. From 7,307-17 feet, 8 feet of sandy shale and sand, with a fair odor of oil was recovered. From 7,717-27 feet, 9 feet was recovered, of which the bottom 4 feet was shaly sand with an odor of gas. From 7,727-32 feet, 2 feet of sand with a distillate odor was logged. From 7,732-42 feet, 8 feet was recovered of which the top 6 feet carried a distillate odor and the bottom 2 feet had a salty taste. Sand showing salt water was cored at 7,740 feet. The hole is bottomed in the Frio formation topped at 6,800 feet. The well is on a block of 10,000 acres centering around the P. C. Yarborough Survey.

In Matagorda County, northeast of the Palacios field, Glenn McCarthy No. 1 Nancy Moffett, Susan Perkins Survey, is coring in sand below 8,669 feet. A slight gas odor was logged in cores at 8,573-82 feet and from 8,589-99 feet.

Pool Prospect in Galveston

In Galveston County, about 2 miles southeast of the Greens Lake field, D. Buckley Survey, Sun Oil Co. No. 2 Houston Farm Development Co. has apparently opened a new producing area as the well is flowing a slight amount of distillate from perforated casing at 6,808-18 feet. It is flowing through a quarter-inch choke, showing a tubing pressure of 2,800 pounds and shut-in casing pressure of 1,600 pounds. The flow lines are reported to be freezing up as the pressure continues to rise. On a previous test at 6,965-85 feet, the well flowed salt water with a slight show of oil.

Harris County

Jack Frazier was preparing to test No. 1 Lackner, located about half a mile from Eureka production in Harris County. The hole is bottomed at 9,038 feet, and 5½-inch casing was cemented at 8,328 feet, preparatory to testing a new sand at 8,074-92 feet, which, two weeks ago, showed evidence of distillate production. If productive, the well would open up an entirely new sand possibly from the Cook Mountain horizon. Previous production has been from the Lower Saline Bayou formation. Drilling operations in the field are expected to be curtailed temporarily until an outlet for the production is provided. Eastern States Petroleum Co., which had been shipping the oil by tankcar, notified operators that it would discontinue purchases September 1. There are 15 producing wells in the field, having a daily average production of 1,140 bbls.

In the Clinton field, Harris County, Stanolind Oil & Gas Co. opened a new sand in the Miocene with the completion of No. 2 Kate Sanders. Sand showing oil was topped at 4,045 feet, and the well was completed through perforated casing at 4,043-52 feet, for an initial production of 271 bbls. per day through a quarter-inch choke. Casing pressure was 550 pounds and tubing pressure 375 pounds. The main pay is found at 3,700-3,800 feet.

Fairbanks Cut Off on North

The northern limit of the Fairbanks field was defined with the abandonment at 6,864 feet of Williams & Thompson No. 2 Kramer. Cockfield was topped at 6,570 feet and Discorbis Yeguaensis at 6,730 feet. The test is about 800 feet north of the same operators' No. 1 Kramer, an oil well, and about 3,000 feet south of a recent dry hole drilled by W. V. Bowles. On the east side of the field, Stanolind Oil & Gas Co. has asked the Railroad Commission to designate its No. 1 Fritz Look as a separate producing area. This well, which is located 4,000 feet east of production, was completed last week in a new sand at 6,900 feet. The area will probably be referred to as the Rosslyn field.

In the Segno field, Polk County, Gulf Oil Corp. was testing No. 13 Wing after perforating casing at 8,114-18 feet. The hole is bottomed at 8,123 feet and 5½-inch casing was cemented on bottom. If productive, the well will be the second test completed in the Cook Mountain horizon of the Wilcox series (lower Tertiary). Humble Oil & Refining Co. No. 9-B Kirby Lumber Co., recovered 900 feet of gas-cut mud and salt water on a 7-minute drill stem test at 8,200-28 feet.

On the northwest flank of the Orange field, Orange County, Red Bank Oil Co. cemented-off perforations in No. 1 Michel after the well flowed a slight amount of distillate, and 1,750,000 feet of gas from perforated casing at 5,561-73 feet. Seven-inch casing was cemented on bottom at 5,575 feet. The well is scheduled to be retested in the same zone, which is a new sand for the field. Martin Thompson No. 1 Duhon, on the southeast flank, tested 77 pounds of working pressure and 9 thribbles of oil on a 10-minute drill stem test at 5,917-53 feet. Sand showing oil was cored at 5,940-50 feet, and 5½-inch casing was cemented at 5,937 feet.

In the same county and located northeast of Orange, Sun Oil Co. has started drilling operations on No. 1 Lutcher Moore Lumber Co., a wildcat in the B. Johnson Survey. The well is scheduled to be drilled to the Frio formation.

Approximately 2½ miles southwest of League City and northwest of the Dickinson field, Galveston County, Frank J. Anderson is moving in material for No. 1 L. Lobit, a projected 9,000-foot test located in the J. M. Perry and E. M. Austin League.

On the north flank of the Davis Hill salt dome, Liberty County, D. M. Wallace and others No. 1 J. L. League had reached the Yegua formation and was being watched with interest as it cores ahead below 5,600 feet. The Cockfield was topped at 4,915-34 feet and the Discorbis Yegua at 5,264-74 feet.

COMPLETIONS ON TEXAS COAST

Brazoria County

Danbury field: Rowan Drilling Co. No. 8-A Jamison, 1,970 feet, 99 bbls. 12 hours, ¼-inch choke. Hastings field: Stanolind Oil & Gas Co. No. 6 Remely, perforated casing 6,050-77 feet, 420 bbls., ¼-inch choke. Stanolind Oil & Gas Co. No. 15 Sneed, sand 5,830-6,080 feet, 612 bbls., ¼-inch choke. Old Ocean field: Harrison and Abercrombie No. 1 Sadler and Larsen, 10,297 feet, 325 bbls., various chokes.

Galveston County

Dickinson field: Atlantic Refining Co. No. 2 C. H. Frederick, 8,135 feet, 483 bbls., ¼-inch choke. Humble Oil & Refining Co. No. 3 Fream, sand 8,168-83 feet, 448 bbls., ¼-inch choke. Hitchcock field: Maco Stewart No. 4 fee, sand 5,141-49 feet, 405 bbls., ¼-inch choke.

Harris County

Clinton field: Stanolind Oil & Gas Co. No. 2 Kate Sanders, perforated casing 4,043-52 feet, 271 bbls., ¼-inch choke. Stanolind Oil & &Gas Co. No. 1 C. J. Caywood, 4,672 feet, temporarily abandoned. Eureka field: Tidewater Associated Oil Co. No. 2-A Lackner, sand 7,695-7,750 feet, 594 bbls. ¼-inch choke. Fairbanks field: Williams & Thompson No. 2 A. K. Kraemer, 6,864 feet, abandoned. Friendswood field: Humble Oil & Refining Co. No. 3 Herman Hospital, sand 5,615-6,047 feet, 622 bbls. ¼-inch choke. Humble

Oil & Refining Co. No. 1 C. E. Wood, sand 6,004-44 feet, 598 bbls., ¼-inch choke. Tomball field: Humble Oil & Refining Co. No. 2-B Schultz, perforated casing 5,610-16 feet, 436 bbls., ¼-inch choke. Texas Co. No. 3 Doughtie, 5,566 feet, 450 bbls., ¼-inch choke.

Liberty County

Hardin field: Gulf Oil Corp. No. 3 Tullos, sand 7,594-7,605 feet, 496 bbls., ¼-inch choke. Woodley Petroleum Co. No. 1 Emma Davis, 7,636 feet, 618 bbls., ¼-inch choke.

Montgomery County

Conroe field: Brown & Wheeler No. 9-A Hooper, sand 5,015-5,139 feet, 556 bbls., ¼-inch choke.

La.-Ark. Fields

(Continued from Page 78)

tainer was run for a squeeze job, and upon testing it was found to be faulty and was drilled out. Operators, at latest reports, were fishing for jars, and will be milling down when the fishing job is complete. Total depth is 7,500 feet.

Carterville Test

The deep test in the Carterville gas field, Webster Parish, Louisiana, being drilled by the Magnolia Petroleum Co., continued to attract attention. The No. 1-C Pardee Lumber Co. has a string of protective casing set at 5,920 feet. The well showed oil in the Pettit horizon, and after testing dry, was acidized with 5,000 gallons and retested. The result was a slight show of oil and salt water after raising the tubing. The test was then cored 3 feet further to 6,028 feet, and 1-foot recovery showed a stain and odor of oil. The crew is coring ahead.

Schuler Field

Schuler is gaining a new edge producer on the east edge of that Union County field. The producer, Crescent Drilling Co. No. 1 Lewis, topped Jones sand at 7,571 feet and has 5½-inch casing set at 7,637 feet, total depth 7,637 feet. The initial gauge was 40 bbls. per hour.

Cotton Valley

Successful completion of the North American Consolidated Oil Co. No. 1 Burrow, northwest outpost test at Cotton Valley marked the week's most important development in that area. The well, second to produce oil in the lower Marine Bodcaw sand, indicates that the oil reservoir on the flank of the regular anticlinal field encircles the central gas and distillate cap, which constitutes the main part of the field at present. The new oil well is in an opposite direction from the field, compared with the discovery well in the oil section of the Bodcaw, a southeast outpost.

The new well cored the Bodcaw sand at 8,662-8,700 feet and 7-inch casing was set at 8,665 feet with total depth at 8,725 feet. Last week, the initial production test surprised operators by showing a small percentage of salt water. However, a plug-back job shut off the water, and the well came in making an initial production of 27 bbls. per hour on a half-inch choke with a gas flow estimated at 750,000 feet daily. Tubing pressure is 275 pounds and casing pressure 1,000 pounds. Plugged back total depth is 8,685 feet. No showing of water was reported in the recompleted well.

The status of the salt water in the North American well is unknown. If it proves to be Bodcaw water, the extent of the oil production on the rim of the gas-distillate cap is only about two locations wide, much less than was anticipated. However, some operators believe that it came from some other source, and the question may not be definitely settled until another test is drilled in the immediate area.

Bisteneau Test

In Bienville Parish, De Soto Oil & Gas Co. No. 1 Fleming, due east of Elm Grove, in the Bisteneau gas-distillate area has casing set at 5,390 feet where gas and distillate sand was reported. Total depth is 5,525 feet.

N. Y.-Penna. Gas Fields

COUDERSPORT, Pa, Sept. 12.—Another successful completion was recorded in the currently active Willing Township, Allegany County, New York, area in the past week when Van Gelder and others drilled in their test on the J. O'Hara farm. It was good for 6,150,000 feet per day with an initial rock pressure of 1,525 pounds. Top of the Oriskany was at 4,727 feet, and the well was completed at 4,730 feet.

Two more locations were staked in that area during the past week: Cunningham Natural Gas Co. is moving in on the Fortner farm, a western offset to the Clark well, and Belmont Quadrangle Drilling Co. is moving in on the G. Lampe farm. A third new location reported this week is that of Clancy and others on the D. Hovey farm, Addison Township, Steuben County.

Empire Producing Co. is drilling at 4,854 feet on the Floyd Wilson farm after passing the lime at 4,194-4,229 feet and the Tully at 4,253-4,324 feet. This is the deepest of the present drilling wells in southern New York. In others Penn York is drilling at 4,510 feet on the Cyrus Wilson farm, where the Tully was encountered at 4,235-80 feet; Belmont Quadrange Drilling Co. is drilling at 2,235 feet on the Hilligas No. 2 farm, and Cunningham Natural Gas Co. is drilling at 1,035 feet on the William Shear farm. Belmont Quadrangle Drilling Co. is also drilling at 3,200 feet on the A. H. Billings farm in adjacent Independence Township.

G. L. Cabot, Inc., spudded in two of its scheduled tests in Steuben County, one on the Elmer Downey farm, West Union Township, elevation 2,271 feet, and the other on the George Hotaling farm, Woodhull Township, elevation 1,280 feet. This company also has a location on the Charles Crane farm in Woodhull Township.

The imminent completion of two Potter County wells and the progress of a trio of wildcat tests are holding the interest among the Pennsylvania operations. McKenry and others' wildcat on the Stellman farm, Rockland Township, Venango County, is making slow prog-

(Continued on Page 88)

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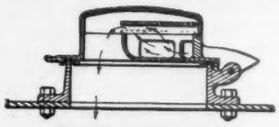

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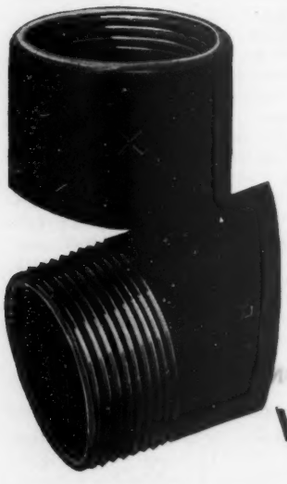

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Oklahoma Operations

By
DAL DALRYMPLE

Deep Wildcat Tests Start in Caddo, Cleveland, Stephens

Wildcats that are due to be of more than ordinary interest to Oklahoma operators were started the past week in Caddo, Cleveland, and Stephens counties. Other features of the week in Oklahoma fields included extension of the Jesse pool in Coal County, opening of a gas area in Noble County and the tapping of rich Bartlesville sand production in Creek County.

Ordovician production will be the goal of Texas Co. No. 1 Smith, C NE NW Section 2-5n-12w, wildcat near Apache and in southwestern Caddo County. It is on a large block of leases assembled by the late Clyde M. Becker and Quinton Little, many of the tracts being bought at Kiowa Indian Agency sales at Anadarko. The block is at the south end of a big trend extending from the Wichita Mountains northwesterly to near Elk City in Beckham County. Continental Oil Co. is drilling a wildcat at No. 1 Proctor, C NW Section 28-10-20w, on the north sector of the trend and on a big block assembled by J. L. Bryan of Chickasha. The No. 1 Proctor, in Washita County, was making hole below 4,700 feet.

M. J. Mitchell and others No. 1 Westfall, SE cor. Section 33-2n-4w, Wilcox sand test near Doyle in Stephens County; and Big Chief Drilling Co. and others No. 1 Strategier, NW NW SW Section 25-9-2w, Wilcox sand test near Norman in Cleveland County, were the other deep wildcats started the past week.

Continental Oil Co. No. 1 Brown, NW SW SW Section 7-1n-8, extended the Jesse pool one location eastward in Coal County. It flowed 986 bbls. of oil in six hours and was rated potentially at 3,513 bbls. Gas measured 1,600,000 feet daily. It topped McLish formation at 4,340 feet, and had Wilcox sand at 4,569-4,624 feet, total depth.

Superior Oil Co. No. 1 Loula, SW NE SE Section 16-22-1e, in the Otoe City area, Noble County, found gas production in Wilcox sand at 4,790 feet, total depth, and was being tested for oil production. It is northeast of the shallow Otoe City pool.

Central Commercial Oil Co. has one of the larger wells completed in the Bristow area, Creek County, in recent months at the No. 1 Bruce, SW cor. Section 15-17-9, 8 miles north of Bristow. It flowed at the rate of 300 bbls. of oil an hour from Bartlesville sand at 2,515-50 feet, total depth. Gravity of the oil was 38 degrees.

Pure Oil Co. has announced it will retire as a purchaser in the Healdton field, Carter County, effective October 12. At that time its gathering facilities in the field will be taken over by the Ben Franklin Refining Co., soon to start operations at the old Wirt Franklin refinery at Ardmore.

Wildcat Operations

Young & Newsom No. 1 Edgeman, SE cor. Section 17-7-6, wildcat that opened the Edgeman pool west of Little River in Seminole County, was completed in Wilcox sand at 4,378-80½ feet, total depth. It averaged pumping 396 bbls. of oil in 24 hours on a six-day test, and later pumped as much as 887 bbls. of oil in 24 hours. Gravity of the oil was 39.5 degrees.

A new producing area in Okfuskee County was opened at C. W. Titus No. 1 Lehmar, C NE NE Section 26-11-8, wildcat south of the Dill pool. It has Cromwell sand pay at 3,476-81 feet, total depth, and flowed 103 bbls. of 37-gravity oil in 18 hours. On later tests, it swabbed and flowed 118 bbls. of oil and 15 bbls. of water in 23 hours, and for a subsequent 30-day average swabbed and flowed 137 bbls. of oil and 17 bbls. of water daily. It was completed on pump, pumping from 105 to 132 bbls. of oil and 10 to 15 bbls. of water daily.

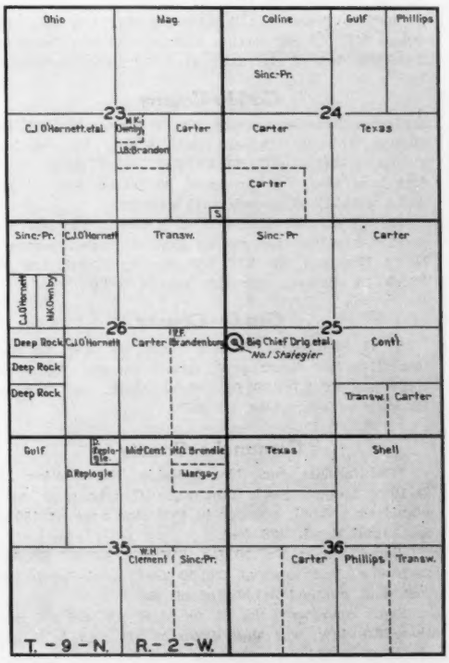
Phillaine No. 1 Morrison, NE SE SW Section 13-9-10, wildcat in northern Hughes County, topped first Wilcox sand at 3,980 feet, had second sand at 4,025 feet, was bottomed at 4,214 feet, plugged back to 4,036 feet and acidized. It swabbed 40 bbls. of oil and some water in eight hours, then was shot at 4,020-28 feet. It was completed, pumping 50 bbls. of 53-gravity oil and 300 bbls. of water daily.

W. C. McBride, Inc., No. 1 Wilson, NW SW SE Section 10-11-9, wildcat location in Okfuskee County, was abandoned.

McClennon and others No. 1 Rodesney, C W half SW NE Section 27-11-2w, wildcat east of the Oklahoma City field in Oklahoma County, had erected rig and dug pits.

Texas Co. No. 1 Smith, C NE NW Section 2-5-12w, was location for a wildcat in southwestern Caddo County, northwest of Apache and about 9 miles west of the west extension of the Cement field. It is to be a 4,500-foot test, on surface and seismograph structure.

Elm Oil Co. No. 1 Plumlee, NE SW NE Section



Mid-Continent Map Co., Tulsa

The area east of Norman in Cleveland County is to be tested for Wilcox sand production at a wildcat in Section 25-9-2w

8-5s-6e, wildcat northeast of Madill in Marshall County, was a derrick. It was scheduled as a 2,000-foot test.

Big Chief Drilling Co. and Gulf Oil Corp. No. 1 Strategier, NW NW SW Section 25-9-2w, wildcat northeast of Norman and southeast of the Moore pool in Cleveland County, was digging cellar and pits. In addition to the Gulf company's contribution of one-half of the lease and $3,500, the Sinclair Prairie, Slick-Urschell and Carter companies are contributing to the test.

Payne County

The twelfth and thirteenth producers in the Ramsey pool, southwest of Stillwater in Payne County, were completed the past week.

Mid-Continent Petroleum Corp and associates No. 5 Ramsey, SW NW NW Section 18-18-2e, extended the producing area one location northward. It found Wilcox sand at 4,760-89½ feet, total depth, was washed in and flowed 679 bbls. of oil in two hours to gain an estimated potential of 8,148 bbls. of oil daily. Gas measured 3,500,000 feet daily.

Same operators' No. 6 Ramsey, NE SW NW Section 18-18-2e, southeast of the No. 5 well, had Wilcox sand at 4,727-63 feet, total depth. It flowed 1,262 bbls. of oil in two hours, with 7,250,000 feet of gas, and was completed for potential of 15,146 bbls. of oil daily.

Soon after completion of the two big producers, work was started at three new tests. They were: Mid-Continent Petroleum Corp. and others No. 3 Brandon, SE NE NE Section 13-18-1e; same operators' No. 1 Gray, NE SW SW Section 18-18-2e, and their No. 5 Columbia, SW NE SW Section 18-18-2e, all digging cellar and pits.

Pontotoc County

Simpson & Roodhouse No. 3 Illinois Life, NE NW NW Section 28-2n-6, Fitts field, Pontotoc County, had Cromwell sand pay at 3,099-3,115 feet, total depth 3,121 feet, was shot and pumped 96 bbls. of 38.2-gravity oil in 24 hours.

Magnolia Petroleum Co. No. 11 Norris, NW NW SE Section 25-2n-6, was shot and flowed 85 bbls. of oil through tubing in 24 hours. It topped Cromwell sand at 2,498 feet and had pay at 2,576-92 feet.

Lake Oil Co. No. 2 Summers, SW SE SW Section 25-5-4, Bebee pool, entered Viola lime at 2,432 feet, was bottomed at 2,564 feet, and pumped 70 bbls. of oil in 24 hours. Gravity of the oil was 37 degrees.

Ace Oil Co. No. 1 Patterson, SW SE NE Section 27-5-8, Allen pool, was dry and abandoned at 2,729 feet, total depth.

Sinclair Prairie Oil Co. No. 3-B Starrett, NE NW NE Section 21-5-5, East Bebee area, was a location. Minton & Osborn No. 1 Chandler, NE SE NE Section 35-5-7, Allen district, was a location.

Pottawatomie County

Six new producers were completed and two old oil wells were deepened and recompleted in the St. Louis field, Pottawatomie County.

J. E. Trigg No. 2 Vanselous, NW NE SE Section 32-7-5, had Viola lime pay at 4,046-79 feet, total depth, and pumped 400 bbls. of oil and 400 bbls. of water daily. Gravity of the oil was 40 degrees.

Oklahoma Oil Corp. and others No. 7 Smith, SE SW SE Section 25-7-4, pumped 240 bbls. of oil net in 24 hours after acidizing, with no water intrusion. Gravity of the oil was 39 degrees. It had dolomite pay at 4,256-64 feet, total depth 4,267 feet.

Magnolia Petroleum Co. No. 4 Nicklass, SW NW NW Section 31-7-5, found dolomite pay at 4,255-59 feet, total depth, was treated with acid and pumped 100 bbls. of 39-gravity oil and 75 bbls. of water net in 24 hours.

Deep Rock Oil Corp. No. 5 Tolen, SE SW SW Section 30-7-5, swabbed 192 bbls. of 39-gravity oil and 122 bbls. of water in 18 hours after acidizing, and was completed on pump for 175 bbls. of oil and 100 bbls. of water. Dolomite pay was found at 4,204-10 feet, total depth.

Magnolia Petroleum Co. No. 4 Billington, C N half NE SW SW Section 36-7-4, found dolomite pay at 4,200-23 feet, total depth, was acidized and pumped 300 bbls. of oil and 1,500 bbls. of water daily.

Elbar Corp. No. 2 Hathcock, SE SE SW Section 11-7-4, had Calvin sand pay at 3,138-45 feet, total depth, and flowed 56 bbls. of oil and 60 bbls. of water in 24 hours.

Deep Rock Oil Corp. No. 3 Tolen, SW cor. Section 30-7-5, an old well, was deepened from 4,225 feet to Wilcox sand at 4,366-70 feet, total depth, plugged back 10 feet and pumped 2½ bbls. of oil and 5 bbls. of water daily.

Hall & Briscoe No. 1 Smith, SE NE NE Section 32-7-5, an old well, pumped 448 bbls. of 40-gravity oil and 432 bbls. of water daily after deepening from 4,041 feet to 4,056 feet and acidizing.

F. C. Hall, Inc., No. 1 Lawrence, NE SW NE Section 29-7-5, spudded but was abandoned.

New work in Pottawatomie County: Conelly Drilling Co. No. 1 Sanders, NW SE NW Section 20-7-4, cellar and pits; Harold Berkey No. 3 Schooland, SE NE NE Section 36-7-4, spudded; Harry Shaffer No. 1 Schrader, NE SE NE Section 6-6-5, building rig; Taber & Coleman No. 1 Briscoe, SW SW NE Section 29-7-5, building rig; Neustadt and others No. 1 Bruno, SE cor. Section 31-7-5, spudded.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending September 10 and for the preceding week was as follows:

	Barrels	
	Sept. 10	Sept. 3
Allen	5,775	5,100
Billings	4,600	5,200
Burbank	8,250	7,975
South Burbank	10.700	11.250
Balance Osage	18,650	18,500
Blackwell district	4,500	4,525
Bristow-Slick	6,925	6,975
Chandler	1,875	1,950
Crescent	4,225	4,000
Cromwell	3,450	3,175
Cushing-Shamrock	10.750	10.550
Duncan district	3,875	3,850
Edmond	4,650	4,450
Fish	2,775	3,150
Fitts	38,850	36,900
Jesse	2,675	2,300
Graham-Fox	4,025	3,950
Gray	900	850
Healdton	8,125	8,175
Hewitt	3,450	3,550
Keokuk	4,225	3,600
Konawa	1,275	1,325
Lucien	9,250	8,500
Moore	4,575	4,025
Oklahoma City	107,125	95,925
Olympic	4,850	5,300
Ramsey	2,150	2,075
Sasakwa	1,300	1,325
Sholem-Alechem	2,600	2,575
Seminole district:		
Bowlegs	7,650	8,125
Carr City	2,950	2,950
Dora	4,375	4,100
Earlsboro	4,575	4,850
South Earlsboro	400	425
East Earlsboro	4,400	4,650
Little River	6,325	6,350
East Little River	925	950
Maud	600	650
Mission	1,350	1,425
Seminole	6,875	7,175
East Seminole	1,625	1,625
Searight	2,475	2,675
Total Seminole	44,525	45,950
St. Louis-Pearson	19,250	21,725
Tatums	2,550	2,875
Tonkawa-Garber-Thomas	4,650	4,550
Wewoka	2,125	2,150
Yale-Jennings	4,025	4,050
Other pools	84,000	80,075
Total Oklahoma	447,500	432,400

Seminole County

J. F. Smith No. 4 Harryman A, SW cor. Section 33-7-6, Dora pool, Seminole County, had sand at 2,851-83 feet, total depth 2,893 feet, plugged back to base of sand, was shot and flowed 432 bbls. of 27-gravity oil daily.

Same operator's No. 1 Huddleston, NE NE SW Section 32-7-6, was shot and flowed 90 bbls. of oil the first 10 hours and then flowed 72 bbls. of oil in 24 hours through tubing. It had sand at 2,932-44 feet, total depth 2,946 feet.

Rogers & Rogers No. 1 Winton, NW NE NW Section 36-7-5, found Senora sand at 2,780-84 feet, was bottomed at 2,973 feet, ripped casing in Senora pay and flowed 272 bbls. of 37-gravity oil in 24 hours.

Atlantic Refining Co. No. 2 Bowles, SE NW NW Section 22-6-6, pumped 95 bbls. of 40-gravity oil and 30 bbls. of water daily after acidizing. It had dolomite pay at 3,575-80 feet, total depth 3,617 feet, plugged back to 3,584 feet and shot before treating.

Carter Oil Co. No. 3 Keokuk, C N half SW NE Section 2-10-6, an old well in the Keokuk pool, was deepened from 4,148 feet to 4,210 feet, and flowed 214 bbls. of oil and 11 bbls. of water in 24 hours, recompleted.

Texas Co. No. 1 Brook B, SW SW NW Section 25-8-6, an old well in the Bowlegs area, was dry and abandoned after plugging back from 4,151 feet, total depth, to 4,127 feet, shooting and acidizing.

Three new tests in Seminole County were reported: J. F. Smith No. 4 Austin, SW NE SE Section 32-7-6, Dora pool, cellar; same operator's No. 3 Sparks, SE NW SE Section 32-7-6, location; Charles Newsom and others No. 1 C. T. Smith, NE cor. Section 20-7-6, location.

Okfuskee County

Wrightsman Oil Co. No. 1 Lehmar, SW cor. Section 24-11-8, northeast of the C. W. Titus pool opener in Section 26-11-8, had Cromwell sand at 3,479 feet and was dry and abandoned at 3,509 feet, total depth.

Lincoln County

The Wilzetta pool in Lincoln County was extended one-half mile south at Indian States Oil Co. No. 1 Bailey, NW NW NE Section 2-12-5. It found Hunton lime pay at 4,233-39 feet, total depth, was acidized and flowed 234 bbls. of oil in 17 hours and 40 minutes, continued flowing for several days and went dead. It was completed, pumping 79 bbls. of oil in 24 hours. This well may prove a connecting link between the Wilzetta and South Wilzetta pools.

Hughes County

Rogers & Rogers No. 1 Barnhart, SE SW SW Section 5-6-8, an old well in the Sasakwa pool, Hughes County, was deepened from 2,757 feet to 2,932 feet, plugged back to 2,927 feet, was shot and pumped 14 bbls. of 35-gravity oil daily from Booch sand. Sand was topped at 2,746 feet.

Osage County

Tide Water Associated Oil Co. No. 9 Osage (Clemenshire), C E half E half SE Section 20-24-9, Osage County, had Bartlesville sand at 2,197 feet, total depth 2,233½ feet, and pumped and flowed 104 bbls. of oil and 67 bbls. of water daily. On initial test after shooting, it swabbed 160 bbls. of oil daily.

Indian Territory Illuminating Oil Co. No. 456 Osage, NE NE SE Section 9-26-11, was completed for 2,650,000 feet of gas daily at 1,854 feet, total depth.

Caddo County

Darby Petroleum Corp. No. 2 Loose, NW SE SE Section 27-6-10w, Cement field, Caddo County, had Pontotoc series at 4,742-49 feet, total depth 4,850 feet, was shot and produced 20,000,000 feet of gas daily, with 1,650 pounds rock pressure.

Ray Stephens, Inc., No. 1 Farwell, NE NE SW Section 27-6-10w, had rig on ground. Same operators' No. 1 Waggner, SE NW NW Section 3-5-9w, Lot 30, Block 13, Cement townsite, was a cellar.

Grady County

T. H. McCasland No. 1-A Finch, SE NW NE Section 21-3n-5w, Knox pool, Grady County, had Pontotoc pay at 1,743-90 feet, total depth, and pumped 12 bbls. of 38-gravity oil daily.

Comanche County

Wichita Oils, Inc., No. 8 Noble, NW Section 28-2n-10w, Lawton pool, Comanche County, was completed as a 3-bbl. pumper in Pontotoc zone at 450-72 feet, total depth 478 feet.

Joe S. Truitt No. 10 fee, SW SW SE SE Section 26-2n-11w, had sand at 323-50 feet, total depth 358 feet, and pumped 3 bbls. of oil daily.

Same operator's No. 11 fee, NW SW SE SE Section 26-2n-11w, was shut down at 370 feet, with gas showing at 324 feet. Wichita Oils, Inc., No. 9 Noble, SE SE NW Section 28-2n-10w, was rigging up tools.

First Reports

In Noble County, Superior Oil Corp. No. 1 Faw Faw, SW NE SE Section 21-22-1e, Otoe City area, set 10-inch casing at 105 feet.

In Oklahoma County, Jones Associated Oil Co. No. 1 Horn, SW NW NW Section 27-12-3w, Oklahoma City field, was drilling below 2,700 feet.

In Cleveland County, Gulf Oil Corp. No. 1 Kavlor, SE SE SW Section 1-7-2w, Noble pool, was building rig.

In Garvin County, B. C. D. Edwards No. 2 Clark, NW cor. Section 15-3n-3e, was a rig.

In Coal County, H. A. George No. 1 Breedlove, NW cor. Section 25-1n-8e, Clarita area, was moving in material.

In Carter County, McGraw Oil Co. No. 25 Stewart-Hawks, NE NW NW Section 4-4s-3w, Healdton pool, was drilling below 370 feet.

In Stephens County, Louis Sikes No. 9 Mulkey, SW NW NE Section 16-1s-8w, was drilling below 1,700 feet.

Rocky Mountain Runs

Production estimates for week ending September 10:

	Barrels
WYOMING	
Salt Creek	14,020
Big Muddy	1,180
Badger Basin	100
Black Mountain	130
Cole Creek	100
Dallas Derby	350
Dewey dome	130
Dutton Creek	50
Elk Basin	620
Frannie	100
Garland	2,620
Grass Creek	1,970
Hamilton dome	1,350
Hidden dome	110
Hudson	200
LaBarge	860
Lance Creek	14,800
Lost Soldier	1,680
Medicine Bow	3,180
Mule Creek	90
Midway	30
Oregon Basin	4,000
Osage	760
Pilot Butte	10
Quealy dome	700
Rock River	1,870
South Casper	90
Spindletop	30
Poison Spider	260
Teapot	20
Warm Springs	140
Wertz	960
Total Wyoming	52,630
MONTANA	
Border	70
Cat Creek	610
Cut Bank	7,560
Dry Creek	290
Kevin-Sunburst	3,650
Pondera	440
Total Montana	12,620
COLORADO	
Florence	170
Fort Collins and Wellington	280
Iles dome	1,990
Moffat	330
Orchard	40
Rangely	90
Tow Creek	140
Price	480
Total Colorado	3,520
NEW MEXICO	
Cooper	4,940
Eaves	940
Eunice	25,450
Hardy	2,620
Hobbs	16,000
Jal	970
Langlie	4,270
Lynch	580
Lynn	850
Mattix	3,220
Monument	26,430
North Lynch	40
Penrose	5,680
Rhoades	190
Skelly	1,920
South Eunice	2,920
Vacuum	4,220
Artesia-Maljamar	4,530
Getty	300
Hogback	200
Rattlesnake	710
Table Mesa	100
Total New Mexico	107,130
Total Rocky Mountain region	175,900

N. Y.-Penna. Gas Fields

(Continued from Page 86)

ress in an extremely hard Onondaga, which was topped at 4,786 feet. This test is now drilling at 4,827 feet, making an average of about 3 feet per day.

Wasson and others are fishing at 5,323 feet on their Medina sand test in Howe Township, Forest County, after a gas pocket blew the tools part way up the hole and lodged them. O. E. Erickson is shut down at 5,630 feet on the O. E. Erickson farm, Elk Township, Warren County. This well, another Medina test, topped the Black Medina at 5,541 feet.

G. L. Cabot, Inc., drilled into the Oriskany on the West Bingham Grange farm, Bingham Township, Potter County, without a show of gas. Top of the sand was at 4,901 feet, and the bit was 2 feet in the sand without encountering production. New York State Natural Gas Co. has cemented casing on its well on the L. E. Hanes farm, Harrison Township, same county, after topping the Onondaga at 4,668 feet and drilling in to 4,687 feet.

G. L. Cabot, Inc., started drilling on the Frank Raymond farm, another Bingham Township test, during the past week but remains inactive on its Emma Elliott farm location in Harrison Township. Belmont Quadrangle Drilling Co. is rigging up to drill on the F. Rock No. 2 farm, Harrison Township.

G. L. Cabot, Inc., is drilling at 2,575 feet on the Flora Bell Joy farm, Brookfield Township, Tioga County's lone current operation.

California Field Report

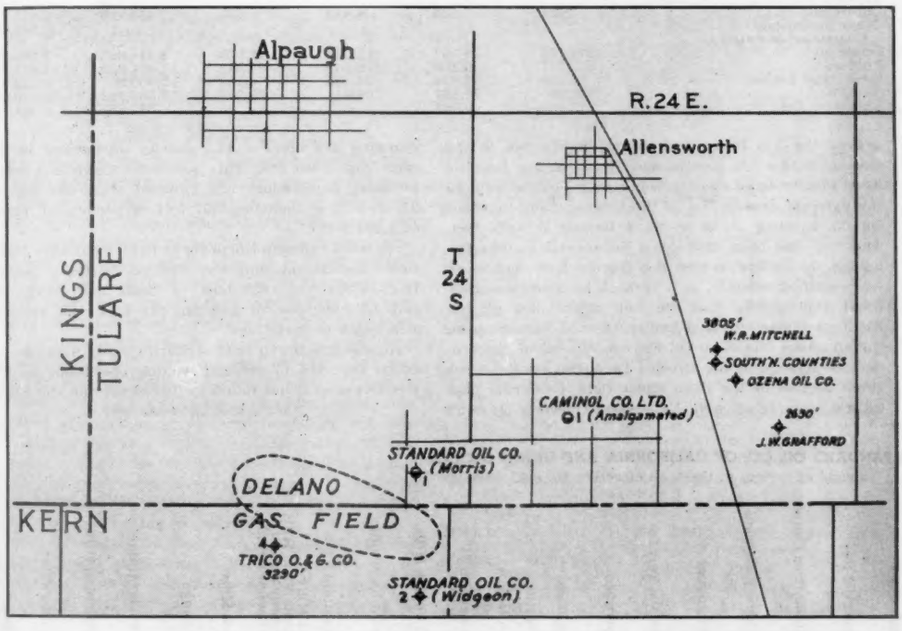
By
L. P. STOCKMAN

Harbor City Extended and E. Coalinga Partly Cut Off

LOS ANGELES, Calif., Sept. 12.—Extension of the productive limits of the Harbor City area in Los Angeles Basin, and probable limitation of the East Coalinga field, marked developments in California during the past week. The Harbor City area, discovered a few months ago by D. & B. Oil Co., now has four completed wells and is approximately 2,500 feet wide. Six new wells have been started within the past fortnight, and with another five locations staked, there should be at least 25 drilling wells under way within 30 days. The D. & B. zone has not yielded exceptionally large flowing wells, the daily average initial having been around 800 bbls. per well. The productive area has not yet been determined and it is therefore possible that with additional drilling operators may find a more prolific part of the structure. The Harbor City area is south of the Lomita section of the Torrance field and apparently constitutes an entirely separate accumulation. The oil is somewhat similar to that produced in the Lomita district, and tests around 26 degrees in gravity. The productive area extends westward from the west end of Section 30-4-13 to about the center of Section 25-4-14 and the trend, up to the present, is in a northwest to southeast direction. Production has been developed both north and south of Lomita Boulevard, which runs from east to west, and there appears to be a tendency on the part of operators to move westward especially in view of the rather disappointing outcome of work on No. 9 Poggi of General Petroleum Corp. This well is expected to result in commercial production, but did not look very good while drilling through the oil zone. Every indication points to the probability that the areal limits of the Harbor City field will prove larger than originally estimated, and this district may become a factor of importance.

East Coalinga

Failure of No. 1 Leavitt-Hintze of Universal Consolidated Oil Co. to pick up the pay tends to limit the western end of production in the East Coalinga district of Fresno County, while the status of Superior Oil Co. No. 1 Hight appears to define the outer limits of production in the eastern end. No. 1 Leavitt-Hintze is drilling ahead at 7,790 feet, in a sandy shale. Top of the (Moreno) Cretaceous was logged at 7,131 feet and in the geological column is considerably below the productive Avenal zone of Eocene age. Superior No. 1 Hight in Section 8-20-16 is down 7,999 feet, and has 9 feet of rich oil sand in the bottom of the hole. The company set a string of casing preparatory to an early production test. The identity of the sand cored has not been disclosed but is believed to be the Gatchell zone originally found productive by Petroleum Securities Co. a few months ago. No. 1 Hight, while it may result in commercial production, tends to indicate that the limits of production do not extend much beyond this location as the well is more than 1,000 feet lower structurally than No. 2 Gatchell, the discovery well. Petroleum Securities should extend the limits of production within a week by completing No. 88 Grimes, as it has penetrated the Avenal zone more than 150 feet. Present bottom is at 6,908 feet and the bit is in exceptionally well saturated oil sand, characteristic of this area. The discovery well showed a potential production of 20,000 bbls. per day although it was not allowed to produce at this rate for more than a few hours. No. 88 Grimes is about 600 feet northwest of the discovery well. Petroleum Securities cored the pay in No. 7-7-F in Section 7-20-16, and landed a string of casing at 6,670 feet. This well topped the Gatchell or Avenal zone at 6,709 feet and was drilled ahead to 6,747 feet before setting pipe. Another two weeks should see this well tanking oil.



Caminol Co., Ltd., which recently resumed drilling operations in a wildcat originally started by Amalgamated Oil & Gas Co. northeast of the Delano gas field, and a wildcat drilled and abandoned by Standard Oil Co., has topped the Temblor at 8,332 feet and on this basis is running about 872 feet higher than Standard's wildcat which showed a small amount of oil and gas

Wilmington

The productive limits of the Terminal zone were extended in the Long Beach Harbor section of the Wilmington field when Superior Oil Co. completed No. 2 Seaside School, flowing 790 bbls. of 27.3 gravity oil per day through a 26/64-inch bean, with bottom of the hole at 3,880 feet. Production of the Ranger zone was shut in, and no test was made of that horizon. No. 2 Seaside School is located 269 feet south and 108 feet west of the center line of Riverside Avenue and Ocean Boulevard and is in an area heretofore considered as beyond the limits of the Terminal zone as a result of faulting. The well is also in the extreme southeastern end of the field. Allied Petroleum Corp. focused attention on this section of the field a week or so ago when its well No. 22 intersected a heretofore unknown fault at 3,450 feet and subsequently found the Lower Terminal zone. This well was drilled ahead to 4,346 feet, but was then plugged back to 4,030 feet.

Richfield Oil Corp. completed its first producing well on the Richfield Oil Terminal property, a piece of harbor frontage acquired a number of years ago to facilitate marine shipments. No. 1 Richfield Oil Terminal was brought in pumping 152 bbls. of 16.4 gravity oil, cutting 4 per cent, from the Ranger zone at 3,080 feet. In the older section of the field Macson Oil Co. No. 55-4-C was completed, flowing 571 bbls. of 15.3 gravity oil cutting 2.5 per cent daily from the Ranger zone, with bottom of the hole at 3,070 feet. Walter Hughes No. 1 Harbor was completed, flowing 270 bbls. of 30.4 gravity oil per day from the Ford zone with bottom of the hole at 5,679 feet.

Torrance

Operators in the Torrance field have just closed a busy week because in addition to abandoning several locations and starting a number of new wells they completed ten new wells and former upper zone producers that had been redrilled and deepened to the lower zone. The wells did not show large production but are representative of the present condition of the lower zone which has been subjected to intensive development for several months. Two of the ten wells put on production were recompletions. These were No. 16 Torrance of Chansior Canfield Midway Oil Co. finished flowing 205 bbls. of 26.5 gravity oil cutting 12 per cent, and 105,000 feet of natural gas per day from 5,000 feet, and No. 1 Beaverstate of M. P. S. Oil Co., pumping 188 bbls. of 26.1 gravity oil, cutting 7 per cent, from 4,999 feet. The largest well completed was No. 3 Airey of Elexico Oil Corp. flowing 390 bbls. of 26.4 gravity oil daily from 4,904 feet, through a 26/64-inch bean and showing a tubing pressure of 110 pounds and a casing pressure of 160 pounds.

McDonald & Burns, who have completed several wells in the deeper zone, finished No. 10 Moore, flowing 264 bbls. of 26.8 gravity oil daily from 5,004 feet. The smallest completion was Jewel Oil Co. No. 1 Lomita, pumping 98 bbls. of 26.1 gravity oil, cutting 5 per cent, from 4,963 feet. Packard Petroleum Corp. No. 4 Lomita was finished at 4,960 feet, flowing 215 bbls. of clean 26.5 gravity oil. Freeman Holding Co. completed No. 1 Baxter, flowing 246 bbls. of clean 26.5 gravity oil per day. S. R. Dunphy No. 1 Lomita pumped 191 bbls. of 26.3 gravity oil per day from 5,002 feet. Kovel Oil Co. No. 2 Lomita was good for 297 bbls. of clean 26.3 gravity oil per day at 4,965 feet. C. L. Mc-

Wherter No. 1 Torrance, bottomed at 4,876 feet, was good for 220 bbls. of 26.8 gravity oil per day.

Montebello

Drilling operations in the west end of the old Montebello structure, where operators are aggressively exploiting the fifth and sixth zones, found highly productive last year by St. Helens Petroleum Co., are still increasing. Union Oil Co. completed No. 2 Wilcox flowing 610 bbls. of 34.8 gravity oil, cutting 14 per cent, and 870,000 feet of gas per day from the sixth zone, which is in rocks of upper Miocene. This well was bottomed at 6,254 feet. St. Helens Petroleum Co. is expected to drill a deep test on the Monterey Land & Water lease at an early date to determine the possibility of securing production below zones now being developed.

Rosecrans

Universal Consolidated Oil Co. surprised operators in the Rosecrans field of Los Angeles basin this week by taking out permits for six new wells to be drilled on the Trust lease. These new wells are Nos. 6, 7, 8, 9, 10, 11 and 12 and while they will not all be drilled simultaneously this move indicates that the company considers it has locations for a least seven additional wells. Superior Oil Co. which is putting the finishing touches on No. 10 Maxwell Community has staked location for No. 11 Maxwell which will probably be drilled upon completion of No. 10 on the same lease. Republic Petroleum Co. which at one time had the Trust lease now being developed by Universal Consolidated Oil Co. has started redrilling No. 1 Trust preparatory to carrying it down to the deep O'Dea zone which was proved highly productive by Barnsdall Oil Co. last year.

Ventura Avenue

In the Ventura Avenue field, General Petroleum Corp. is preparing to deepen No. 16 Barnard from its present depth, 5,447 feet, to the deep 57 zone and Tide Water Associated Oil Co. and Bolsa Chica will probably start at least one offset well down to this zone at once. General Petroleum Corp. did not prove up a new zone in this field but did greatly extend the 57 zone as No. 18 Barnard is rather far out on the north flank of the structure. No. 18 Barnard of General Petroleum Corp., which was completed flowing 1,984 bbls. of 31.1 gravity oil and 1,554,000 feet of gas per day from 8,410 feet, has been pinched back to 550 bbls. per day by reducing the flow bean to 20/64-inch. Tide Water Associated Oil Co. completed No. 75 Lloyd flowing 288 bbls. of 29.1 gravity oil and 1,775,000 feet of natural gas per day from the upper zone with bottom of the hole at 6,995 feet.

San Joaquin Basin

Standard Oil Co. has rig up for No. 11-16 Kern County Land in the Greeley field of Kern County and this well which is scheduled for completion in the Rio Bravo zone will get under way within ten days. Standard proved the Rio Bravo zone highly productive in the Greeley field a few months ago by completing No. 11-2 Kern County Land as an exceptionally prolific well. In the extreme eastern end of the Greeley field, Superior Oil Co. is going ahead in No. 1 Krause at 9,670 feet. This well has been shut down for several months following the failure to find the Stevens zone, but work was resumed recently, as a recheck of conditions indicated a possibility that the well might pick up the Rio Bravo zone which is known to exist higher up on the structure. Standard Oil Co. controls all of the productive acreage in the Greeley field. Out on the West Front section of the Kern River field, California Star Oil Co. completed well No. 5-80 in section 22-28-27 pumping 118 bbls. of 14.3 gravity oil cutting 14 per cent from 2,660 feet. This new well, which is a representative completion, was finished with 388 feet of 9⅝-inch liner including 367 feet of perforated landed at 2,600 feet.

In the Kettleman North Dome field, Kettleman North Dome Association completed well No. 27-16-Q in Section 16-22-18 flowing 3,635 bbls. of clean 35.3 gravity oil and 3,358,000 feet of gas per day from the Temblor at a depth of 8,442 feet.

In the Rio Bravo field of Kern County Superior Oil Co. is expected to suspend drilling operations on No. 1 Helbling as it has failed to find either the Rio Bravo

(Continued on Page 96)

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Sept. 2		Aug. 26			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	633,300	60,038
Diesel and gas oil	.....	.....	.....	.....	.....	176,726
Gasoline	.....	.....	190,166	27,167	2,388,144	2,836,281
Kerosene	.....	.....	.....	.....	257,005	328,907
Foreign exports—						
Crude oil	418,633	59,805	520,998	74,428	16,408,075	9,723,745
Fuel oil	72,471	10,353	167,013	23,859	6,024,130	9,726,665
Diesel and gas oil	87,640	12,520	232,098	33,157	4,350,753	5,548,192
Gasoline	.....	.....	763,572	109,082	5,645,172	5,779,668
Kerosene	.....	.....	20,454	2,922	687,555	1,589,462
Lubricants	.....	.....	.....	.....	103,127	.....
Other unfinished oil	.....	.....	.....	.....	.....	849,163
Coastwise-domestic—						
Crude oil	242,180	34,597	312,032	44,576	8,414,065	3,159,325
Fuel oil	201,266	28,752	301,148	43,021	7,293,685	10,478,930
Diesel and gas oil	35,929	5,133	18,941	2,706	1,084,557	1,445,475
Gasoline	215,906	30,844	77,573	11,082	10,286,388	10,553,419
Kerosene	13,177	1,882	.....	.....	168,263	272,401

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	178,662	152,932
Gasoline	.....	.....	15,910	2,273	25,409	25,778
Kerosene	.....	.....	16,124	2,303	16,124	.....
Asphalt	.....	.....	.....	.....	418,700	278,026
Lubricants	.....	.....	.....	.....	16,905	22,472
Foreign exports—						
Crude oil	314,066	44,867	193,009	27,573	4,187,975	1,957,468
Fuel oil	165,974	23,711	145,559	20,794	1,781,935	1,554,395
Diesel and gas oil	190,733	27,248	37,892	5,413	2,158,561	2,239,528
Gasoline	224,377	32,054	132,718	18,960	4,189,116	3,632,308
Kerosene	95,847	13,692	.....	.....	574,139	683,076
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	3,731	533	4,449	636	352,592	425,740
Coastwise-domestic—						
Fuel oil	122,481	17,497	77,214	11,031	4,117,637	4,406,822
Diesel and gas oil	50,409	7,201	11,497	1,642	1,011,534	777,459
Gasoline	280,161	40,023	192,368	27,481	5,276,754	3,417,080
Kerosene	29,512	4,216	.....	.....	349,595	188,822

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	633,300	60,038
Diesel and gas oil	.....	.....	.....	.....	178,662	329,658
Gasoline	.....	.....	206,076	29,439	2,413,553	2,862,059
Kerosene	.....	.....	16,124	2,303	273,129	328,907
Asphalt	.....	.....	.....	.....	418,700	278,026
Lubricants	.....	.....	.....	.....	16,905	22,472
Foreign exports—						
Crude oil	732,699	104,671	714,007	102,001	20,596,050	11,681,213
Fuel oil	238,445	34,064	312,572	44,653	7,806,065	11,281,060
Diesel and gas oil	278,373	39,768	269,990	38,570	6,509,313	7,787,720
Gasoline	224,377	32,054	896,290	128,041	9,834,288	9,411,976
Kerosene	95,847	13,692	20,454	2,922	1,261,694	2,272,538
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	3,731	533	4,449	636	455,719	425,740
Other unfinished oil	.....	.....	.....	.....	.....	849,163
Coastwise-domestic—						
Crude oil	242,180	34,597	312,032	44,576	8,414,065	3,159,325
Fuel oil	323,747	46,250	378,362	54,052	11,411,322	14,885,752
Diesel and gas oil	86,338	12,334	30,438	4,348	2,086,091	2,222,934
Gasoline	496,067	70,867	269,941	38,563	15,563,142	13,970,499
Kerosene	42,689	6,098	.....	.....	517,858	461,223

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Monebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	...	...	...	$.80	$.76	$.76	$.77	$.78	...	...	$.70	$.70	$.70	...	...	$.70	...
15-15.9	.80	.79	.74	.78	.79	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.70	...
16-16.9	.80	.79	.74	.78	.79	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	...	...	...	.82	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	...	...	...	.85	.76	.78	.77	.78	...	$.70	.74	.74	.71	$.70	...	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	...	...	...	.88	.78	.82	.77	.80	...	.70	.78	.78	.72	.70	...	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	...	...	...	.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70	...	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	...	...	...	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	...	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	...	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	...	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	...	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	...	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	...	1.02	.95	...	.89	.99	.86	.88	1.01	.98	.90	.83	...	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	...	1.05	.98	...	.92	1.03	.90	.91	1.06	1.02	...	...	...	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	...	1.10	1.03	.88	...	...	1.02	...	.96	1.06	.95	.95	1.10	1.06	...	...	...	.95	...
28-28.9	1.14	1.10	.90	1.14	1.15	...	1.14	1.07	.90	...	...	1.06	...	.99	1.10	.99	.99	1.15	1.10	...	...	...	.97	...
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	...	...	1.09	...	1.03	1.14	1.03	1.02	1.20	1.14	...	...	...	.99	...
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	...	...	...	1.07	1.17	1.08	1.06	1.25	1.18	...	...	...	1.01	...
31-31.9	...	...	...	...	1.24	Pipe	1.24	1.22	.97	Ship	...	...	...	1.11	1.21	1.12	1.09	1.29	...	...	...	...	...	...
32-32.9	...	...	...	...	1.27	Line	1.27	1.27	1.00	...	...	...	...	1.14	1.25	1.16	1.13	1.34	...	...	...	...	...	...
33-33.9	...	...	...	...	...	...	...	1.32	...	$1.28	...	...	...	1.18	1.28	1.20	1.17	1.38	...	...	...	$1.19	...	...
34-34.9	...	...	...	...	...	...	...	1.37	...	1.32	...	...	...	1.22	1.32	1.25	1.20	...	...	...	...	1.23	...	...
35-35.9	...	...	...	...	...	...	...	1.42	...	1.35	...	...	...	1.25	...	1.29	...	...	...	...	...	1.27	...	...
36-36.9	...	...	...	...	...	...	...	1.46	...	1.39	...	...	...	1.29	...	1.33	...	...	...	...	...	1.31	...	...
37-37.9	...	...	...	...	...	...	...	1.51	...	1.43	...	...	...	1.32	...	1.37	...	...	...	...	...	1.35	...	...
38-38.9	...	...	...	...	...	...	...	1.56	...	...	...	...	...	1.36	...	1.42	...	...	...	...	...	1.39	...	...
39-39.9	...	...	...	...	...	...	...	1.61	...	...	...	...	...	1.40	...	...	...	...	...	...	...	1.43	...	...
40-40.9	...	...	...	...	...	...	...	1.66	...	...	...	...	...	1.43	...	...	...	...	...	...	...	...	...	...

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over. By Standard Oil Co., effective October 15: El Segundo, 14 to 18.9 degrees, 80 cents; 19-19.9, 82 cents cents; 20-20.9, 85 cents; 21-21.9, 88 cents; 22-22.9, 92 cents; 23-23.9, 95 cents; 24-24.9, 99 cents; 25-25.9, $1.03; 26-26.9, $1.06; 27-27.9, $1.10; 28-28.9, $1.14; 29-29.9, $1.17; 30-30.9, $1.21. Wilmington, 14 to 16.9, 75 cents; 17-17.9, 77 cents; 18-18.9, 79 cents; from 19 degrees upward, prices same as Signal Hill.

Rocky Mountain Area

By
T. R. INGRAM

Lance Creek Pipe Line Runs Exceed Those of Salt Creek

DENVER, Colo., Sept. 12.—One well was abandoned in Colorado in the Cortez Oil Co. No. 1-A Crowley, Archuleta County. There were no new operations.

Lance Creek pipe line runs for two weeks have exceeded runs from the Salt Creek, thereby taking first place against the field that has held the record for 28 years. The Continental Oil Co. No. 3 Apex-3 in Lance Creek flowed 360 bbls. in 13½ hours through the tubing. Same company has a near completion in Park County which will mean an extension of the Frannie pool. Wyoming had two new operations, one in Platte County, and the other a wildcat south of Lance Creek, the latter to be drilled by the Continental Oil Co.

Cut Bank had two completions, neither of which has been tested. One small gas well was completed in Kevin-Sunburst. New operations included a wildcat in Blaine County, one well in Cut Bank, one in Judith Basin County and two in Kevin-Sunburst.

The Mountain Fuel Supply Co. wildcat in Summit County, Utah, was abandoned after testing the Frontier.

The California Co. deep test in North Dakota was unable to free drill pipe and was abandoned at 10,281 feet.

The Felmont Oil Corp. test in Sanford district, Nebraska, was abandoned at 6,506 feet.

NEW MEXICO

Extension of the rapidly expanding Vacuum field in Lea County, southeastern New Mexico, was indicated the past week when Helmerich & Payne and Continental Oil Co. No. 1-G-36 State, C NW SW Section 36-17-35, started flowing high-gravity oil following drill stem test and while pulling pipe. It is 2 miles southeast of the farthest east production in the pool. The outpost had been running low structurally in comparison with the nearest producer and it was thought it would define the area on the east. It showed both oil and gas on drill stem test at 4,790-4,920 feet, and began flowing oil and an estimated 1,000,000 feet of gas when drill pipe was being removed. The oil flow subsided when pressure was equalized, and the well was shut in awaiting arrival of 7-inch casing. It was generally thought the oil was from lime near bottom of hole, although some observers believed it might be producing from a sand. The oil was said to test 40.3 degrees, somewhat higher than that in the pool.

Two producers in the Vacuum field were completed. Phillips Petroleum Co. No. 9 Santa Fe, C SE SE Section 21-17-35, found top of pay at 4,380 feet, total depth 4,645 feet, and flowed at the rate of 13 bbls. of oil an hour through 1-inch choke on tubing, following acidization.

Shell Petroleum Corp. No. 1-B State, C SE SE Section 30-17-35, flowed 96 bbls. of oil in six hours through tubing from pay topped at 4,520 feet, total depth 4,700 feet. Gas gauged 620,000 feet.

Five wells were completed elsewhere in Lea County. Stanolind Oil & Gas Co. No. 4-B Langlie, C NW SW Section 14-25-37, Langlie pool, had pay at 3,320 feet, total depth 3,418 feet, and flowed 65 bbls. of oil in 15 hours.

Weir Drilling Co. No. 1 Woolworth, NE NE SW Section 28-24-37, found pay at 3,472 feet, was bottomed at 3,565 feet, and flowed 159 bbls. of oil in six hours through choke on tubing, with 500,000 feet of gas.

Continental Oil Co. No. 2 Britt, B-15, C W half SW NW Section 15-20-37, Monument field, flowed 32 bbls. of oil an hour, with 439,000 feet of gas, from pay topped at 3,880 feet, total depth 3,913 feet.

Repollo Oil Co. No. 2 Turner, SW NE SW Section 29-21-37, had pay at 3,710 feet, total depth 3,803 feet, and flowed 70 bbls. of oil in nine hours.

Gulf Oil Corp. No. 4 Day, SE SW NW Section 6-22-36, South Eunice area, had initial production of 327 bbls. of oil daily, with 1,724,000 feet of gas, naturally and through tubing. It topped pay at 3,795 feet, total depth 3,850 feet.

Lea County

Addison Oil Co. No. 3 Knight, S NE NW Sec. 27-24-37. T.D. 3,561 ft.; 800 ft. O.I.H. in 24 hrs.

Anderson & Prichard No. 3 Carlson-Harrison, SE NW SE Sec. 22-25-37. Drlg. 3,304 ft.

Anderson & Prichard No. 2 Stuart, SW SW NW Sec. 11-25-37. T.D. 3,288 ft.; W.O.C.

Anderson & Prichard No. 3 Wells, C NE NW Sec. 5-25-37. T.D. 3,413 ft., sd.; gauged 4,300,000 ft. gas; tstg.

Cities Service No. 1-K State, C SW NE Sec. 27-17-35. Drk.

Continental Oil Co. No. 1 Hawk B-6, NW NW SE Sec. 6-21-37. Loc.

Continental Oil Co. No. 1-B-1 Lockhart, C SW NW Sec. 1-22-36. Drlg. 2,020 ft.

Continental Oil Co. No. 1 Myer B-31, C NW SW Sec. 31-20-38. T.D. 3,790 ft.; F. 73 B.O. in 3 hrs. naturally; 802,000 ft. gas.

Continental Oil Co. No. 1 State 1-7, NE NW NE Sec. 7-17-34. Drlg. 4,747 ft.

Continental Oil Co. No. 2-J-2 State, C NE SE Sec. 2-22-36. Drlg. 2,455 ft.

Continental Oil Co. No. 1 State A-36, C SE SE Sec. 36-20-37. T.D. 3,845 ft. L.; tstg.

M. J. Delaney Drlg. Co. No. 1 State, C SE NW Sec. 30-17-35. Drk.

Walter Donnelly No. 1 Davis, C SE NW Sec. 33-23-37. Drlg. 3,296 ft.

Emperor Oil Co. No. 1 Humble-State, C SE SW Sec. 36-20-35. Drlg. 640 ft.

Getty Oil Co. No. 3-F State, C NW NW Sec. 36-17-34. Drlg. 4,529 ft.; S.S.O.&G.

Great Western Prod. Co. No. 1 Leonard, C SE NE Sec. 32-23-37. Drlg. 3,492 ft.

Gulf Oil Corp. No. 1 Alley, C NE SE Sec. 10-23-37. T.D. 3,715 ft.; P.B. 3,686 ft.; S.I.

Gulf Oil Corp. No. 2-E Mattern, C NE SW Sec. 1-22-36. T.D. 3,700 ft.; tstd. 1,724,000 ft. gas.

Gulf Oil Corp. No. 6 McCormack, C NW SE Sec. 32-21-37. R.U.R.

Helmerich & Payne and Continental Oil Co. No. 1-G-36 State, C NW SW Sec. 36-17-35. Drlg. 4,711 ft.

Humble O. & R. Co. No. 6 Fopeano, C NE NE Sec. 35-20-36. T.D. 3,850 ft.; F. est. 1 B.O.P.H. and 1,000,000 ft. gas.

Humble O. & R. No. 1-J State, C SW SW Sec. 19-17-35. T.D. 1,561 ft.; W.O.C.

Magnolia Pet. Co. No. 2 Corrigan, C SE SE Sec. 33-21-37. T.D. 3,760 ft.; swb. 14 B.O. and shot.

Magnolia Pet. Co. No. 2-L State, C SW SW Sec. 21-17-35. Drlg. 1,241 ft.

Magnolia Pet. No. 1-M State, C NE NW Sec. 34-17-35. C.&P.

Magnolia Pet. Co. No. 13 State-Bridges, C SW NW Sec. 25-17-34. T.D. 4,763 ft.; shot.

Magnolia Pet. Co. No. 14 State-Bridges, C SW NE Sec. 25-17-34. T.D. 4,720 ft.; swb. and F. 45 B.O. in 20 hrs.; shot.

Magnolia Pet. Co. No. 15 State-Bridges, C SW SE Sec. 26-17-34. Drlg. 4,711 ft.

Magnolia Pet. Co. No. 16 State-Bridges, C NW NE Sec. 25-17-34. C.&P.

Maljamar O. & G. Co. No. 10 Baish, C SW NW Sec. 22-17-32. T.D. 4,110 ft.; bailing and tstg.

Maljamar O. & G. Co. No. 11 Baish, C NW NW Sec. 22-17-32. T.D. 3,950 ft.; S.O.

Maljamar O. & G. Co. No. 1-B State, C SW SE Sec. 16-17-32. T.D. 3,660 ft.; cmtg.

Jas. A. Mascho No. 2 Cloyd, C SW SW Sec. 20-22-33. T.D. 4,755 ft.; S.D.O.

John Menke No. 1 Alexander, C NW NW Sec. 5-21-37. Drlg. 3,755 ft.; est. 50 B.O.P.D.

Ohio Oil Co. No. 1 State-Warn, C NW NW Sec. 6-18-35. Drlg. 3,460 ft.

Ohio Oil Co. No. 1 State-Bridges, C NE NE Sec. 20-17-34. Drlg. 4,120 ft.

Ohio Oil Co. No. 1 Walden, C NE NE Sec. 21-22-37. O.W.D.D.; O.T.D. 3,636 ft.; fsg. D.P. 3,672 ft.

Ohio Oil Co. No. 1 Wills, C NE NW Sec. 35-26-37. Drk.

Olean Pet. Co. No. 1 Boyd, C NW SW Sec. 23-22-37. T.D. 3,368 ft.; rng. csg.

Olean Pet. Co. No. 1 Ferrell, C NE SE Sec. 22-22-37. Drlg. 3,165 ft.

Parker Drlg. Co. No. 1-A State, C SW SW Sec. 21-22-37. Drlg. 3,195 ft.

Lem Peters No. 1 Coil, NW SW SW Sec. 26-22-37. Drlg. 3,605 ft.; S.S.O. and G.

Lem Peters No. 4 L. J. May, SW SE NE Sec. 27-22-37. Drlg. 1,625 ft.

Lem Peters No. 2 T. O. May, NW NE NE Sec. 34-22-37. T.D. 1,145 ft.; S.D.O.

Phillips Pet. Co. No. 3 Santa Fe, C SW NW Sec. 5-18-35. Drlg. 3,193 ft.

Phillips Pet. Co. No. 10 Santa Fe, C NE NW Sec. 24-17-34. Drk.

Phillips Pet. Co. No. 11 Santa Fe, C NE SW Sec. 26-17-35. Drk.

Phillips & Pure No. 3 Woolworth, C E½ SE SE Sec. 33-24-37. Drlg. 2,255 ft.

Repollo Oil Co. No. 2 Hair, NW SW NW Sec. 9-24-37. T.D. 3,560 ft.; S.I.; no gauge.

Shell Pet. Corp. No. 1-E State, C SE SW Sec. 31-17-35. Drlg. 3,922 ft.

Shell Pet. Corp. No. 1-F State, C SW SW Sec. 29-17-35. C.&P.

Shell Pet. Corp. No. 1-G State, C SE SE Sec. 22-17-34. T.D. 4,765 ft.; swb. 49 B.O. in 6 hrs.; acdz. and swb. 77 B.O.; acdz. and swb. 139 B.O.P.D., 30 per cent B.S.

Shell Pet. Corp. No. 1-H State, C NW SW Sec. 29-17-35. C.&P.

Shell Pet. Corp. No. 4-H State, W½ NE SE Sec. 13-21-35. T.D. 3,767 ft.; W.O.C.

Shell Pet. Corp. No. 1-S State, C NE SE Sec. 21-17-35. Drk.

Shell Pet. Corp. No. 1 Swigart, C NE SE Sec. 25-17-34. Drlg. 4,425 ft.

Skelly Oil Co. No. 1 Baker, C SW SW Sec. 10-22-37. W.O.C. 270 ft.

Skelly Oil Co. No. 6 Baker, C SW NE Sec. 27-22-37. T.D. 3,403 ft.; W.O.C.

Skelly Oil Co. No. 1 J. V. Baker, C SE SW Sec. 22-22-37. O.W.D.D.; T.D. 3,695 ft.; F. est. 60 B.O.P.D. while C.O.

Skelly Oil Co. No. 1-B King, C NE SW Sec. 33-22-37. W.O.C. at 1,172 ft.

Skelly Oil Co. No. 1-M State, C SW SW Sec. 32-24-37. T.D. 3,418 ft.. R.U.S.T.; est. 10,000,000 ft. gas.

Stanolind O. & G. Co. No. 5-B Langlie, C SE SE Sec. 9-25-37. T.D. 3,171 ft.; R.U.S.T.

Stanolind O. & G. No. 26 Thorpe, C SE NW Sec. 10-19-38. O.W.D.D.; O.T.D. 4,185 ft.; to D.D.

Stanolind O. & G. Co. No. 8 Terry, C NW SE Sec. 9-19-38. O.W.D.D.; O.T.D. 4,186 ft.; T.D. 4,200 ft.; acdz. and tstg.

Standard Oil Co. of Texas No. 1 State, C SW NW Sec. 32-17-35. T.D. 4,705 ft.; P.B. 4,649 ft.; 77 B.O. in 24 hrs.; tstg.

Standard of Texas No. 1 State, C NE SW Sec. 27-17-35. W.O.C. at 256 ft.

Sou. Pet. Explo. Co. No. 4 Downes, C NW SW Sec. 32-21-37. T.D. 3,450 ft.; W.O.C.

Texas Co. No. 3 Black, C NW NE Sec. 21-24-37. T.D. 3,600 ft.; P.B. 3,495 ft.; C.O. and F. est. 50 B.O.P.D.

Texas Co. No. 4 Black, C SE NW Sec. 21-24-37. C.&P.

Texas Co. No. 5 Fristoe, NW SE SE Sec. 3-25-37. Drlg. 2,451 ft.

Texas Co. No. 2 Fanning, C NW NE Sec. 4-26-37. Drlg. 2,630 ft.

Texas Co. No. 15 Lieu Lands, C SW NE Sec. 20-20-37. Drlg. 3,600 ft.

Texas Co. No. 1-N State, C SW SW Sec. 30-17-35. T.D. 4,850 ft.; P.B. 4,689 ft.; acdz. & tstg.

Texas Co. No. 3-Q State, C NW SE Sec. 25-17-34. Drlg. 4,608 ft.

Texas Co. No. 1-S State, C NW SW Sec. 35-17-34. T.D. 4,200 ft.; rng. csg.

Texas Co. No. 7-O State, C SE SE Sec. 36-17-34. Drlg. 2,740 ft.

Texas Co. No. 8-O State, C SW SW Sec. 36-17-34. W.O.C. 1,550 ft.

Texas Pacific C. & O. Co. No. 6-A State, SW SE NW Sec. 21-23-26. Drk.

Tide Water Asso. Oil Co. No. 1-L State, C NE NW Sec. 23-12-36. Coring 5,194 ft.; no shows.

Twin Oil Co. No. 1 Hare, C SE SW Sec. 33-21-37. T.D. 1,203 ft.; set 8⅝-in. csg.

Twin Oil Co. No. 1 Joyce-Pruitt, C SE SE Sec. 31-21-37. T.D. 3,771 ft.; C.O.

Twin Oil Co. No. 2 Corrigan, C NE NE Sec. 4-22-37. T.D. 3,651 ft.; 2,500 ft. O.I.H. in 13 hrs.

Two States Oil Co. No. 3-B Cole, C SE NE Sec. 16-22-37. Drk.

Two States Oil Co. and Kaseman No. 2-A Hill, C SE SW Sec. 31-20-38. Drlg. 3,185 ft.

Weiner et al No. 2 Smith, NW SE NE Sec. 4-25-37. Drlg. 2,655 ft.

Francis C. Wilson No. 1 State, C SW NE Sec. 7-21-35. Drlg. 1,090 ft.

Eddy County

Adkinson Oil Co. No 1 Brainard, SE SW SE Sec. 5-18-27. Loc.

F. E. Baker No. 1 Eddy, NE Sec. 12-22-27. T.D. 2,510 ft.; U.R.

Carper Drlg. Co. No. 1 Day, NE NE NE Sec. 3-19-21. Drlg. 2,660 ft.

Danciger O. & R. Co. No. 1-B Turner, CEL NE SE Sec. 17-17-31. Drlg. 910 ft.

D. & B. Oil Co. No. 3-A Jenkins, SW SW NW Sec. 21-17-30. Loc.

D. & B. Oil Co. No. 3-A Berry, NW SW NW Sec. 21-17-30. Drlg. 2,500 ft.

Dominion O. & G. Co. No. 2 Johnson, C SE NE Sec. 35-16-31. Drlg. 3,599 ft.; last report.

Dominion O. & G. Co. No. 3 Johnson, C NE SW Sec. 35-16-31. W.O.C. 1,280 ft.

English & Harmon No. 1 Dougherty, NE NE SW Sec. 3-17-27. Drlg. 2,185 ft.; S.S.O.&G.

Etz Bros. No. 5 State, SE NE SE Sec. 16-17-30. Drlg. 710 ft.

Franklin Pet. Corp. No. 1 McIntyre, NW NE SE Sec. 20-17-30. T.D. 2,748 ft.; S.D. for csg.

Fullerton Oil Co. No. 1-A Johnson, C SE NW Sec. 35-16-31. T.D. 3,871 ft.; shot & C.O.

Fullerton Oil Co. No. 1-A Little, C NE NE Sec. 28-18-31. Drlg. 2,850 ft.

C. F. Ingram No. 1 Page, NE NE SW Sec. 15-21-28. Drlg. 2,405 ft.

F. G. Keys No. 2 State, C SE NE Sec. 9-17-28. Drlg. 1,675 ft.; bailing 4 B.O.P.D.

Harry Leonard No. 1 Texas, NW NW NE Sec. 36-16-31. T.D. 4,009 ft.; swb. & F. 54 B.O.P.D., then shot.

Martin-Yates No. 1 Bowers, SW SE SE Sec. 31-19-27. Drlg. 460 ft. L.; O.I.H.

Peyton Bros. No. 1 Erwin, C SW SW Sec. 9-18-31. Cellar.

Peyton Bros. No. 2 Ginsberg, C SE SE Sec. 8-18-31. T.D. 3,185 ft.; F. 38 B.O.P.D.; S.I.

Premier Pet. Co. No. 1 Maddren-Beeson, NE SW SE Sec. 28-17-30. T.D. 1,655 ft.; W.O.C.

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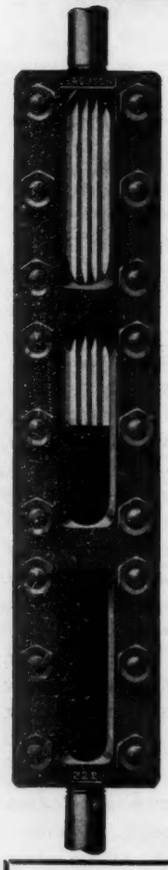

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Repollo Oil Co. No. 3 Beeson, SE NE SE Sec. 28-17-30. T.D. 3,043 ft.; W.O.C.
Western Drlg. Co. No. 2-A Western, SE SE NW Sec. 23-17-29. T.D. 3,040 ft.; acdz. to test.
Nell H. Wills No. 2 Colglazier, SW SW NE Sec. 20-20-30. Drlg. 1,153 ft.
Yates-Dooley No. 1 Creek, C SW NE Sec. 35-18-30. Drlg. 2,435 ft.; S.O.

Chaves County

E. J. Fisher No. 1 Foster, C NW NW Sec. 7-15-26. T.D. 1,107 ft.; W.O.C.
Nay Hightower No. 1 Billingslea, C SW NE Sec. 28-11-30. T.D. 20 ft.; R.U.S.T.
Interstate Minerals, Inc., No. 1 Dunigan, NW cor. Sec. 15-15-30. T.D. 2,485 ft.; S.D. for csg.
J. & L. Drlg. Co. No. 2 Hurd, SW Sec. 11-11-26. Drlg. 1,500 ft. L.

De Baca County

N. F. Woods No. 1 Jones, C NE SW Sec. 17-4n-20. T.D. 190 ft.; S.D.O.
James D. Ward No. 1 Summers, SE NE SW Sec. 15-4n-24e. T.D. 404 ft.; S.D. repairs.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 Pajarito, Sec. 22-9n-1e. Dk.; M.I. rot.
Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW Sec. 10-11n-4e. Drlg. 4,050 ft.

McKinley County

Petroleum Production Corp. No. 1 Santa Fe, NE NE NW Sec. 1-17n-9w. Drlg. 1,275 ft.

Rio Arriba County

Continental Oil Co.-L. M. Hughes No. 1 Esquibel, unsurveyed; approx. Sec. 28-28n-4e. T.D. 1,754 ft.; 8¼-in. at 1,689 ft.; U.R. to bttm.
Oil City Pet. Co. No. 1 Azotea, SW SW NE Sec. 11-31n-2e. Spdg.

San Juan County

Continental Oil Co. No. 80 Rattlesnake, SW SW NW Sec. 1-29n-19w. Drlg. sd. at 805 ft.
Jack Amenda No. 1, NE NE Sec. 14-29n-13w. Drlg. below 100 ft.
Al Greer No. 2 fee, SW SE SW Sec. 10-30-11w. S.D. 660 ft. for 10-in.
Anna Oil Corp. No. 6 Govt., SW NE NE Sec. 33-30n-11w. S.D. 1,893 ft.

Socorro County

Central New Mexico Oil Co. No. 1 Belen gr., SE NW Sec. 16-3n-1e. T.D. 2,965 ft. (C.D.); C.O.

Torrance County

Drice Co. No. 1 Garland, NE SE NE Sec. 32-7n-7e. T.D. 1,325 ft.; cmtg. dry caves at 1,150-1,280 ft.
Estancia Valley Carbon-Dioxide Dev. Co. No. 1 Crawford, SE NE NE Sec. 32-7n-7e. S.D. 1,010 ft.
Chief Oil & Gas Co. No. 1 Lee, NW NW SW Sec. 12-6n-7e. T.D. 2,215 ft.; C.O. 300 ft.

Valencia County

Old Spanish Grants, Inc., No. 1 San Clemente, C SE SW Sec. 23-7n-1e. Drk.; W.O. rotary.
C. A. Grober et al No. 1 Fuqua, NE NE Sec. 19-5n-3e. T.D. 840 ft. (C.D.) W.O. title adj.

COLORADO

Archuleta County

The Cortez Oil Co. No. 1-A Crowley, NW SE NE Section 2-32n-2e, Price district, south and west of the Gramps pool, which was shut down last spring at 2,000 feet, contract depth, after finding the Dakota dry, was deepened through that formation to 2,150 feet, where it was plugged and abandoned.

Boone Dev. Co. No. 1 Newton, SE NW SE Sec. 18-33n-1e. T.D. 303 ft.; W.O. 10-in.
Pagosa Oil & Dev. Co. No. 1 Macht, C Sec. 32-36-1w. T.D. 1,840 ft.; rng. 6¼-in. with bttm. hole packer to top Dakota.

Elbert County

Plymouth Oil Co. No. 1 Brosky-Union Pacific, C SW SW Sec. 19-10s-60w. Drlg. 3,500 ft.; small S.O. in Pierre sh. at 3,000 ft.

Fremont County

Stanley Thomas No. 1 Rickwalt, SE SE Sec. 2-19s-70w. Drlg. 2,120 ft.
R. E. Hawks No. 1 Orndoff, NE SW NE Sec. 3-19s-70w. T.D. 1,650 ft.; C.O. to D.D.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, S NE Sec. 36-7s-88w. T.D. 1,502 ft.; ran 6⅝-in. to 1,420 ft.; U.R. at 1,430 ft.

Grand County

Interstate O. & R. Co. No. 1 Hinman, NE SE NW Sec. 11-2n-81w. S.D. 3,920 ft.; will D.D. to Morrison.

Hueriano County

J. G. Tomkins & Sons No. 1 Pressey, NE NE NE Sec. 10-29s-69w. S.D. 411 ft.; (prospecting for coal).
S. W. Pressey No. 2 Alamo, C SW SE Sec. 3-27s-68w. S.D. 1,320 ft.

LaPlata County

N. Spatter No. 1-X Bryce, SE SW SW Sec. 31-33n-9w. Drlg. 1,726 ft. red sh.

Las Animas County

Garcia Corp. No. 1 McClung, NE NW SE Sec. 19-33s-61w. Drlg. 2,308 ft.

Mesa County

Continental Oil Co. et al No. 1 Miller, SW SW NW Sec. 36-8s-91w. Drlg. 7,168 ft. silty sh.

Moffat County

The Stanolind Oil & Gas Co. No. 5-SD Parkinson, CNL NW SE Section 22-4n-92w, Iles field, completed in September, 1935, in the upper Sundance at 3,330 feet for 15 bbls. per hour, is being deepened through that formation.

Stanolind Oil & Gas Co. No. 5-SD Parkinson, CNL NW SE Sec. 22-4n-92w. Drlg. 3,339 ft.
Morapas Pet. Co. Corp. No. 1 Coles, SW SW SE Sec. 1-3n-92w. S.D. 2,750 ft. for 8¼-in.
C. R. Privett No. 1 Sutton, NE NE SW Sec. 1-5n-96w. T.D. 570 ft.; U.R. 10-in. at 550 ft.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW Sec. 31-36s-17w. S.D. 4,720 ft. for repairs.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. 6,110 ft.

Prowers County

Continental Oil Co. No. 1 Ruby, C NE NW Sec. 31-21s-44w. T. D. 5,149 ft.; cmtd. 9⅝-in. on bttm.; W.O.C.

Pueblo County

Eden O. & G. Co. No. 1 Horse Creek, SW SE Sec. 29-19s-64w. Drlg. sh. 827 ft. in 10-in. hole.
C. E. Puckett No. 1 Barber, NW Sec. 35-21s-66w. S.D. 860 ft. for csg.; flowing W. in Dakota.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW Sec. 16-1n-91w. Drlg. 2,860 ft. blk. sh.

Routt County

L. C. Craig and E. L. Moore No. 1-X Erwin, C SW NE Sec. 33-7n-85w. Ran csg. to 125 ft. and S.D.
Mid-Colorado Pet. Co. No. 1 Omholt, NE NE SE Sec. 29-4n-87w. Drlg. white sd. at 3,140 ft.; top 3,120 ft.
Steamboat Springs Drlg. Synd. No. 1 Brown, C NW NW Sec. 1-6n-86w. T.D. 1,270 ft.; fshg.; csg. stuck at 1,100 ft.

WYOMING

Big Horn County

A. L. Rankin No. 1 Karjajla-Rankin, C SW NW Sec. 10-54n-94w. Drlg. 623 ft.
Prescott & Mileski No. 1 Govt., NE NW SW Sec. 15-1n-93w. T.D. 850 ft. on top Kimball sd.; rng. 8¼-in.
Clifford S. Johnson No. 1 Johnson, CEL NW NW Sec. 24-51n-93w. Rig; W.O. engine.
Joan Oil Co. No. 1 Howell, NE NW NE Sec. 32-55n-97w. T.D. 2,420 ft.; fsg.

Campbell County

Frye & Kreiner No. 2, CSL NW NW Sec. 6-50n-72w. T.D. 723 ft.; rng. 5⅛-in. for W.S.O.

Carbon County

C. D. Cunningham, and others No. 1 Union Pacific-Wolfe, a test on the Flattop structure 7 miles north of Medicine Bow, had a slight show of oil in lime at 152-169 feet. This structure was geologized by Everett S. Shaw and although a well-defined dome, it has never been drilled. The Tensleep is at the surface at the well location and the structure has several hundred feet of closure. The Cunningham test had the base of the surface sand at 152 feet and lime at 152-169 feet, with show of oil at 156-161 feet. It then had hard lime at 214 feet to present bottom at 220 feet.

C. D. Cunningham et al No. 1 Union Pacific-Fee, NW SE NE Sec. 21-22n-78w. Bldg. drk.
C. D. Cunningham et al No. 1 Union Pacific-Wolfe, SE NW SW Sec. 7-23n-78w. Drlg. 220 ft. hd. lime.
Ohio Oil Co.-California Co. No. 5-A Kyle, C NE NW Sec. 26-21n-97w. R.U.R.
Ohio Oil Co. No. 2-A Baker, NW SW SW Sec. 2-23n-79w. Drlg. 1,742 ft.
Sinclair-Wyoming Oil Co. No. 3 Mahoney, C SE NW Sec. 34-26n-88w. Drlg. 4,205 ft. in Embar.
Ohio Oil Co.-California Co. No. 3-A Kyle, C SW NE Sec. 26-21n-79w. Drlg. 7,456 ft. in Tensleep.
Producers Oil Co. No. 1 Lake Valley, 200 ft. C of CNL Sec. 14-20n-88w. Drlg. 1,916 ft.

Converse County

Jack Decker et al No. 1 Simonson, NW NE SE Sec. 16-32n-68w. T.D. 640 ft.; U.R. 8¼-in.
Wyshawn Oil Co. No. 2 Lindley, C SW SW Sec. 35-32n-69w. U.R. csg. to 1,753 ft.
Fred Bunker No. 1 Pestal, SE NE NE Sec. 32-32n-69w. Drlg. 470 ft.
New Era Fuel Co. No. 2 Mary Gasper, CNL NW SW Sec. 25-32n-69w. T.D. 670 ft.; cmtd. 6⅝-in. at 655 ft.
Wyshawn Oil Co. No. 1 Lindley, NW SE SE Sec. 34-32n-69w. U.R. 8¼-in. to 2,105 ft.
Wyoming Southern Oil Co. No. 1 Winda, SW NE NW Sec. 6-31n-69w. Loc.
Blue Ridge Oil Co. No. 1, SW NW SE Sec. 29-32n-69w. Spdg.

Fremont County

Lincoln O. & G. Co. No. 1 Shoshone, NW NW SE Sec. 23-1s-1e. Drlg. 305 ft.
Tropic Oil Co. No. 1 Govt., C SE SW Sec. 34-27n-90w. T.D. 3,378 ft.; fsg.
Consolidated Oil Properties No. 3 Ewart, C SW SE Sec. 16-1n-1w. Drlg. 1,150 ft.
Ben Stewart No. 1 Darnell, NE SE Sec. 26-3n-1w. S.D. 2,245 ft for 7-in.
C. E. Nelson No. 8 fee, CWL NE SW Sec. 27-3n-1w. Drlg. 400 ft.

Hot Springs County

D. D. Gibson No. 22 fee, NE NW SW Sec. 35-43n-94w. Drlg. 1,006 ft.
Italo Pet. Co. No. 1 Skelton-Govt., SE SW NE Sec. 13-44n-98w. Drlg. 1,050 ft.
J. W. Bailes No. 1 Govt., SE SW Sec. 28-43n-93w. T.D. 1,082 ft.; P.B. to 1,015 ft.; tstg.

Lincoln County

H. C. Harris et al No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. 865 ft.

Natrona County

The Salt Creek field, which took first place in 1912 in production in the Rocky Mountain area and has consistently held that position in the northern states down to the present time, yielded to Lance Creek in the past two weeks. In the week ending August 27 Salt Creek pipe line runs were 15,530 bbls. daily as against 16,810 bbls. for Lance Creek. Week ending September 3, Salt Creek runs were 15,500 bbls. and

Lance Creek 15,810 bbls. While Salt Creek runs were normal in the two weeks, it is understood that the increase in Lance Creek was due to the running of some storage oil by the independents.

Salt Creek has produced 277,348,591 bbls. from 1911 to 1937, inclusive, and Lance Creek 11,118,989 bbls. from 1918 to 1937. A normal decline is taking place in Salt Creek, the runs dropping from 6,048,134 bbls. in 1936 to 5,969,638 bbls. in 1937. Lance Creek, on the contrary, is getting into its stride although the unitized area is under proration. Its output jumped from 1,813,991 bbls. in 1936 to 4,256,988 bbls. in 1937.

Negotiations looking to the unitization of Salt Creek are reported making progress and some definite announcement may be expected before the end of the year. The field still has enormous reserves and undoubtedly will be producing large quantities of oil for many years. The Tensleep horizon under this year's developments has not yielded any big wells and the selective method of completing them has not entirely overcome the water problem, although it has been reduced. The big reserve is in the second Wall Creek and under unitization it is believed that the recovery can be greatly increased by the introduction of the latest improved methods. There are some spots in the field where production may be developed in the Dakota and many of the second Wall Creek sand wells ultimately will be deepened to the Lakota.

General Pet. Corp. No. 1 State, NW NE SE Sec. 16-35n-77w. T.D. 3,460 (C.D.) ft.; prep. to run cmt. form. S.O. in Mesa Verde; tent. top steel sh. 3,100 ft.
Stanolind O. & G. Co. No. 8 T.P.-Midwest Oil, C NW SW Sec. 35-40n-79w. Drlg. 2,915 ft.

Niobrara County

The Continental Oil Co. No. 3 Apex-3, NW NE NW Section 34-36n-65w, Lance Creek field, flowed 360 bbls. in 13½ hours through the tubing from the Leo sand at a total depth of 5,355 feet. It will be acidized. The principal saturated horizons were at 5,309-42 and 5,347-48 feet. Elevation 4,381 feet. It is a south offset to the Minnelusa Oil Co. No. 1-A Lamb, the most northerly Leo sand producer in the field, which was completed last December for 450 bbls. initial.

The Continental Oil Co. has released a location for an important wildcat on the south side of Lance Creek in its No. 1-B Diehlman, half a mile away from the nearest producer.

The Continental's pipe line from Lance Creek to Denver is making rapid progress. Pipe has been laid for 20 miles from Lance Creek to Manville and ditching has been completed as far south as Wheatland. On the Colorado side 25 miles have been laid and covered south from Cheyenne.

Continental Oil Co. No. 1-B Diehlman, SW SE NE Sec. 7-35n-65w. Cellar and pits. (First report.)
Continental Oil Co. No. 13 Tom Bell, SE NE SE Sec. 33-36n-65w. Loc.
Ohio Oil Co. No. 11 Lamb Acct. 2, SW SE SE Sec. 5-35n-65w. Drlg. 2,730 ft.
Fall River Royalty & Producers Co. No. 1 Govt., CSL SE SE Sec. 35-40n-61w. S.D. 275 ft. for 15½-in.; top Dak. 265 ft.
Continental Oil Co. No. 7-B Schuricht, NW NW SE Sec. 6-35n-65w. Loc.
H. D. Moore et al No. 1 Beregren, NW Sec. 23-35n-63w. Drlg. r.b. 1,500 ft.
Adams Oil & Gas Co. No. 1 Baker, NE NE SW Sec. 8-35n-65w. Tent. loc.

Park County

The Continental Oil Co. has a near completion on the Frannie dome in its No. 1 Northern Pacific, which will extend the proven area nearly half a mile to the northwest. It cored red shale and sand showing good saturation in the Embar-Tensleep at 3,522-29 feet. Top was at 3,464 feet where it had first saturation.

Ohio Oil Co. No. 1 Trans-Ark., CSL SW SW Sec. 30-57n-98w. Drlg. r.b. 6,509 ft.
Valentine & Watson No. 1 Johnson, NE NE NE Sec. 6-57n-99w. S.D.O. 2,490 ft.
Resolute Oil Co. No. 2 State, C SW SW Sec. 16-57n-101w. Drlg. 6,998 ft.
Continental Oil Co. No. 1 Northern Pacific, SE SE NW Sec. 23-58n-98w. Cg. sat. sd. at 3,549 ft.

Platte County

Bill Griffin et al No. 1, NE SE NE Sec. 18-30n-67w. Spdg. cable tools, near Glendo. (First report).

Sublette County

Frontier Pet. Co. No. 1 Govt., SE SE SW Sec. 1-28-114w. Drlg. 3,100 ft. sh.
Yellowstone Oil Co. No. 1, 200 ft. N of S line of the H. L. Budd ranch, SE SE Sec. 31-31n-112w. S.D. 100 ft.
Wyo. Pet. Co. No. 1 Chas. Budd, C NE NE Sec. 10-29n-113w. Drlg. 748 ft.; prep. install Diesel power.
Progressive Oil Co. No. 1 Haddenham, C NE SE Sec. 21-28n-113w. Drlg. 832 ft.
Texas Co. No. 3-G, NE NW SW Sec. 27-27n-113w. Cmtd. 10-in. at 76 ft.

Sweetwater County

Selegna Oil Co. No. 1 Union Pacific, SW SW Sec. 11-20n-104w. T.D. 5,076 ft.; reported to have cored into oil sat. Sundance; top undisclosed.
Sinclair-Wyoming Oil Co. No. 79 Lost Soldier, SE NE NE Sec. 10-26n-90w. Drlg. 1,301 ft.

Uinta County

Stove Creek Oil Co. No. 1 Govt., C SE NW Sec. 26-14n-119w. Res. at 1,400 ft.
Stove Creek Oil Co. No. 2 Govt., C SW NW Sec. 26-14n-119w. S.D. 300 ft.

Washakie County

Fison Oil Co. No. 1 Govt., CSL NE SE Sec. 24-47n-90w. (Sherard dome). Set 8¼-in. at 116 ft.; W.O.C.
Paul Boether No. 1 Govt., SW NW Sec. 4-47n-90w. R.U.

Weston County

Taylor, Dodge & Pauley No. 2, SE SE NW Sec. 17-46n-63w. Drlg. below 100 ft.
Sackett & Butcher No. 1, C NE NW Sec. 23-46n-64w. Spdg.
Updike Bros. No. 1, NE SW NE Sec. 35-46n-64w. Rng. csg. thru Greenhorn.
Hugh Updike No. 1, CEL NW SE Sec. 15-46n-64w. Drlg. below 200 ft.
Federal Oil Co. No. 9, CNL SE SE Sec. 15-46n-64w. Ready to spd.
Gose Oil Synd. No. 1, NE NE NE Sec. 28-47n-63w. C.O. after landing 4¾-in. at 4,900 ft.
West Osage Oil Co. No. 3, SW SE NE Sec. 15-46n-64w. Hd. tight sd. 2,140-54 ft.; will shoot.
John Brorphy No. 1 George, SW SE NW Sec. 26-48n-64w. S.D.O. 2,193 ft.

MONTANA

Big Horn County

Buzetti & Corkins No. 1, NE NW Sec. 23-1s-32e. M.I.M.

Blaine County

The Montana Gas Corp. has rig up for a test in the Wayne Creek district. The company has been given a franchise to supply gas for domestic purposes to the town of Harlem and it is searching for gas supply.

Montana Gas Corp. No. 1 Duncan, C NW SE Sec. 3 6-32n-24e. Rig. (first report).

Carbon County

R. C. Tarrant No. 2, SE NW Sec. 4-6s-18e. Drlg. 1,925 ft.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW Sec. 35-9s-23e. S.D. 1,810 ft.
R. C. Tarrant No. 2 Heare, NW SE NW Sec. 14-6s-19e. Cmtd. 8¼-in. at 2,335 ft.
Sha-Wa Pet. Co. No. 1 Govt., SW NW NE Sec. 35-9s-23e. S.D. 3,124 ft.
Miracle Oil Co. No. 2 Govt., CWL NE SE Sec. 4-6s-23e. T.D. 2,337 ft. (C.D.); C.O. to res.; will U.R. to bttm. and set csg.

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Choteau County

Security Pet. Corp. No. 1 Johnson, C NE Sec. 23-26n-3e. Drlg. 2,036 ft.

Dawson County

Frank C. Hughes No. 1 fee, NW NE SE Sec. 5-14n-55w. Drlg. 1,065 ft.

Daniels County

White Tail Oil & Gas Co. No. 2 Wiley, NW NW NW Sec. 10-36n-50e. T.D. 1,884 ft.; res. under new management.

Fallon County

Montana-Dakota Utilities Co. No. 45, Unit 7, SE NW SW Sec. 25-6n-60e. Drlg. 320 ft.

Fergus County

Baughman & Singley No. 1 Skaggs, C NW SW Sec. 7-15n-20e. S.D. 1,120 ft.

Glacier County

Cut Bank had two completions and one new operation.

The Glacier Production Co. No. 2 Mueller, CSL NE NE Section 18-33n-5w, was completed at 2,958 feet with the pay at 2,940-57 feet. It was shot with 5 quarts and is testing.

Dr. Peter Potter's No. 3 All.-125, NE NW NE Section 12-32n-6w, was completed at 3,020 feet and had 300 feet of oil from the Cut Bank sand at 2,976-3,012 feet. It was shot with 5, 10, 20 and 40 quarts and is cleaning out.

Texas Co. No. 1 Bonnet, NW SE SE Sec. 8-32n-5w. Spdg. (first report).
Glacier Prod. Co. No. 1 Mather Unit, SW NE SW Sec. 36-35n-5w. R.U.
Texas Co. No. 2 Govt., NE NW NE Sec. 17-32n-5w. Abd. 195 ft.; skid rig 10 ft. E.
Par Oil Co. No. 1 Tribal-170, SW NW SW Sec. 7-32n-5w. Drlg. 798 ft.
Santa Rita O. & G. Co. No. 4 Govt., SE SE SW Sec. 5-32n-5w. Drlg. 2,770 ft.
K. D. Pardee No. 1 Tribal-179, SE NW SE Sec. 12-32n-6w. Drlg. 2,035 ft.
Lawler No. 3 Hoerr-Harlan, NE SW SW Sec. 5-33n-5w. Drlg. 2,525 ft.
Santa Rita O. & G. Co. No. 3 Lander, C S½ SE Sec. 16-35n-6w. Loc.
Nadeau Bros. No. 5 Farmers State Bank, CEL SE NE Sec. 17-33-5w. Drlg. on iron at 2,700 ft.

Judith Basin County

Fletcher E. Hunt has resumed on his No. 3 in the Hobson district at 1,825 to drill through the Madison. It topped that horizon at 1,746 feet and failed to find production in the contact. This well had a show of oil in sand at 311 feet, estimated at 10 bbls. per day. He has moved in a spudder to drill a number of wells to this horizon. Although the sand is only one foot thick, at that depth he hopes to open a small commercial pool. His No. 1 Hoven is spudding.

Fletcher E. Hunt No. 1 Hoven, SE NE NW Sec. 30-14n-15e. Spdg. (first report).
Fletcher E. Hunt No. 3, NW SE NE Sec. 30-14n-15e. Res. at 1,825 ft.

Park County

Ben Ryan et al No. 1 Burgess, SE SW NW Sec. 28-2s-11e. Drlg. 1,550 ft.

Petroleum County

Watson Oil Co. No. 1 Austed SW NW SE Sec. 22-13n-28e. T.D. 445 ft.; W.O. 15½-in.
O. B. Canfield No. 2 Govt., SE NE NE Sec. 21-17-24e. Drlg. 779 ft.

Pondera County

Jones-Chambers No. 1 Erickson, SW SE SW Sec. 3-27n-4w. S.D. 1,932 ft.; will pull 7-in.; U.R. 10-in. and drill to Devonian.

Teton County

California Co. No. 1 Unit, NE SE SW Sec. 26-27n-9w. Drlg. 873 ft.
Gulf State Oil-Zodiac Oil Co. No. 1 Coffee-Wallenstein, SW SW SW Sec. 5-27n-5w. T.D. 2,525 (C.D.) ft.; fshg.

Toole County

There were one completion and two new operations in Kevin-Sunburst. The Consolidated Gas Co. No. 3 Lutz, C SW NW Section 34-33n-2w, gauged 1,700,000 feet of gas with a rock pressure of 192 pounds at 1,575 feet from Sunburst sand.

The Superior Petroleum Corp. has purchased the interests of Stanley Gray, of Minneapolis, in 1,480 acres in the Rocky Ridge pool on the west side. The deal also included Gray's half-interest in the Anna Aronow permit of 1,360 acres. The purchase gives the Superior company 2,280 acres including the Goeddertz farm of 120 acres in Section 12-35n-3w, upon which are three producers drilled by Gray's New Era Fuel Co.

Lewistown-Flathead Oil Co. No. 1 Bashoe, SE SE SE Sec. 9-35n-1w. Drlg. 700 ft. (first report).
Consolidated Gas Co. No. 1 Haukland, C SW NW Sec. 27-33n-2w. Drlg. 500 ft. (first report).
A. Beardslee No. 9 Swears, CSL SW NW Sec. 9-35n-2w. Drlg. 810 ft.
Big West Oil Co. No. 3 Engle, CSL SW SW Sec. 1-35n-3w. T.D. 1,625 ft.; rng. 7-in. to 1,615 ft to C.O.
C. D. Stock No. 3 Haggerty, SE NW SW Sec. 13-35n-2w. T.D. 1,580 ft.; acid. 100 gals.; no results; S.D.
Kluth et al No. 1 Gunderson, SE SW SW Sec. 18-35n-2w. T.D. 1,653 ft.; Ellis 1,640-43 ft.; will acid.
W. M. Cassidy No. 1 Phoenix, CNL NW NW Sec. 28-35n-4w. T.D. 1,740 ft.; rng. 8¼-in.
Fulton-Commonwealth No. 2 Thompson, NW NE SW Sec. 28-35n-3w. Cmtd. 12½-in. at 95 ft.; W.O.C.
A. E. Crumley & Son No. 13 Fryberger, CNL NW SE Sec. 24-35n-3w. T.D. 1,610 ft.; pmpg. 10 B.P.D. naturally; will acd. later.
Big West Oil Co. No. 2 Engle, SE SW SW Sec. 1-35n-3w. T.D. 1,602 ft.; sd. 1,573-1,602 ft.; shot 70 qts.; no results; shot again 50 qts.
R. G. Parrant No. 1 Engstrom, NW NW NW Sec. 13-35n-3w. T.D. 1,759 ft.; sat. in 2 breaks in L.; will acid.
V. F. Dahl No. 1 Kimball, SW SE SE Sec. 1-35n-3w. S.D. 1,807 ft.
Pfabe & Engleking No. 2 Hurley, NE NE NW Sec. 8-34n-2w. S.D. 1,456 ft.; would not take acid; will shoot.
H. C. Morton No. 8 Morton, C SW NW Sec. 24-34-2w. S.D. 650 ft.
Chas. Grant et al No. 1 Anderson, SE NE NE Sec. 26-35n-4w. S.D. 2,109 ft.

Yellowstone County

Broadview Dome Oil Co. No. 1 Stallinberger, NE NE SW Sec. 18-3n-23e. S.D. 4,565 ft.; to resume.
Riverton Oil Co. No. 1 Fox, CEL NW NE Sec. 14-2n-23e. T.D. 1,795 ft.; U.R. 10-in. to set at 1,650 ft.

UTAH

Grand County

Cane Creek Oil Co. No. 1 Govt., NW SW Sec. 31-26n-21e. Drlg. 1,635 ft.; unable S.O.W. and tst. at 1,255-1,500 ft.
Crescent Eagle Oil Co. No. 1 Brendel, SW SE Sec. 4-22s-19e. Drlg. 4,010 ft.

Summit County

The Mountain Fuel Supply Co. No. 1 J. H. Wilde, NE SE SE Section 9-2n-5e, a wildcat on the Spring Hollow structure, was plugged and abandoned at 5,538 feet. It drilled more than 400 feet of the Frontier without results.

Longwell Pet. Co. No. 1, SE SW SE Sec. 35-3n-5e. T.D. 2,876 ft.; sdtrkg.

NORTH DAKOTA

Williams County

The California Co. No. 1 Kamp, C NW NE Section 3-154n-96w, a test on the Nesson structure, was plugged and abandoned at 10,281 feet. The drill pipe was stuck in the hole and efforts to free it were unsuccessful. This hole has the depth record for the Rocky Mountain area. The company has a block of 200,000 acres in Williams and McKenzie counties upon which it has done extensive geological work and it is probable, although no announcement has been made, that another test will be drilled.

NEBRASKA

Garden County

Bergman & Bull No. 1, Sec. 12-16n-42w. R.U.S.T.

Keith County

Twentieth Century Oil Co. No. 1 Stuken. C NW NW Sec. 21-14n-37w. Drlg. sh. 1,200 ft.

Scotts Bluff County

Houston Pet. Co. No. 1 Judd, NE NE NE Sec. 15-22n-57w. Spd. and S.D.

Sioux County

The Felmont Oil Corp. No. 1, C SW NE Section 21-27n-55w, Sanford district, which reached contract depth at 6,500 feet, was plugged and abandoned at 6,506 feet. It had water in the Dakota, Lakota and Sundance sands. The Union Oil Co. of California Co. test six miles to the north, is still drilling by casing.

Union Oil Co. of Calif. No. 1 Agate-15, NW SE SE Sec. 15-28-55w. T.D. 6,890 ft.; cmtd. whipstock 4,700 ft.; drlg. by.

Pawnee County

Blazer & McClure et al No. 1 Allen, NW NE SW Sec. 16-1n-10e. S.D. 610 ft.

Richardson County

H. C. Stevens and Ed Uhri No. 1 Harlow est., C SE NE Sec. 32-1n-13e. S.D. 700 ft.

Adams County

V. N. Souligny et al No. 1 Katzberg, C SW Sec. 26-7n-10w. Rig.

McPherson County

Nebraska Oil Corp. No. 1 McConnell, SE SE NE Sec. 25-17n-31w. Set 4-in. csg. 1,735 ft.; drlg. 2,423 ft.
Pawnee Oil Co. No. 1 Childerston, C NW Sec. 28-18n-31w. R.U.R.

Dawes County

Huber Pet. No. 1 State, SW NE Sec. 16-33n-51w. Rotary rig.

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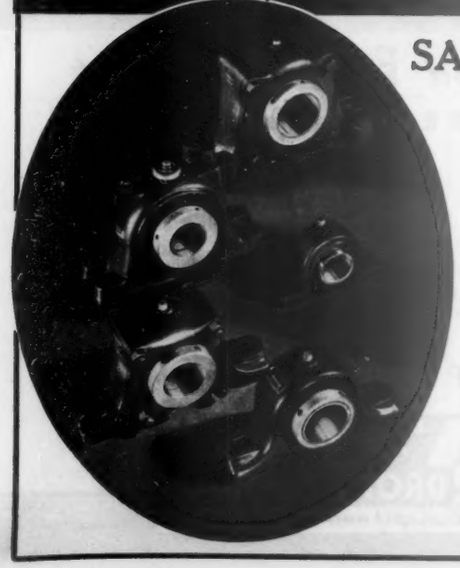

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Eastern Fields

(Continued from Page 76)

Newhouse. West Virginia Gas Corp. had reached 4,848 feet on the Fisher-Newhouse lease. The Hays Oil & Gas Co. is down 325 feet in the F. M. Ray test and at 1,740 feet in the H. C. Painter test.

Deep Tests

The Oriskany test of Joe Rubin on the W. J. Brown farm in Ravenswood district, Jackson County, is still cleaning out after shot. A tamped shot was used and it is believed that the bottom joint of casing collapsed and is so tightly packed that no gas is coming through.

In Pleasants County, the test of the Columbian Carbon Co. on the Giles Hammat farm in Grant district is still fishing with about 15 bbls. of oil a day coming from the shales. The depth was 4,100 feet.

New Work

In Boone County, Columbian Carbon Co. has a volume of 267,000 feet of gas per day from the Brown shale in deepening No. 3 R. H. Wood and others to 5,058 feet. It is in Sherman district. In Barbour County, same company will drill on the Annette Riley farm in Elk district, elevation 1,194 feet, and in Doddridge County, it is drilling at 1,250 feet on the G. W. Farr land in West Union district.

In Otter district, Clay County, Pittsburgh & West Virginia Gas Co. is drilling at 1,990 feet in No. 7657 Lulu C. Hardman; and at 171 feet in No. 7659 Jarvis.

6,200-bbl. Well in Andrews County; 3 Pools in Prospect

By D. H. STORMONT

FORT WORTH, Tex., Sept. 12.—Activity in West Texas was about equally divided between the North and South basin areas, with a general decrease in operations noted throughout the entire West Texas district.

In the North Basin area, the Slaughter pool, in Hockley County, continued to lead the development as two extension wells neared completion and another outpost was drilling ahead. Gulf Oil Corp. No. 2 Mallett Lands, Labor 25, League 34, Concho C.S.L. Survey, 3-mile northeast extension to the field, flowed 165 bbls. of oil in 24 hours on initial tests after being shot with 250 quarts from 4,985 feet to 5,060 feet. Sid W. Richardson No. 2 Slaughter, Labor 58, League 39, Maverick County School lands, one-half mile east outpost to the north extension area is still shut in awaiting completion after flowing approximately 100 bbls. in 24 hours. One mile east of the south extension area, Snowden & McSweeney No. 1 A. A. Slaughter, Labor 74, League 35, Zavalla C.S.L. Survey, was drilling below 3,900 feet in lime.

In Cochran County, the Texas Co. No. 1 Della Slaughter Wright, Labor 23, League 115, Potter C.S.L. Survey, 1¼ miles northwest of the George P. Livermore No. 1 Wright, a small producer in east central Cochran County, has been plugged back to 4,921 feet and will probably be plugged back again in an attempt to shut off water found at 4,919-20 feet. A show of dead oil had been found from 4,885 feet to 4,893 feet. A mile and a quarter to the northeast of the Livermore producer, Magnolia Petroleum Co. No. 1 Wright, Labor 7, League 96, Mills C.S.L. Survey, was drilling below 2,770 feet.

Big Well in Andrews County

In the Means pool, northeastern Andrews County, Humble Oil & Refining Co. completed one of the largest producers yet found in the North Permian basin when its No. 49 Means, quarter-mile southeast outpost to the Means pool and in Section 10, Block A-35, P.S.L. Survey, flowed 6,204 bbls. of oil on the 24-hour Railroad Commission gauge. The well is larger than the same operator's No. 47 Means which made 5,430 bbls. daily. The well, after a three-stage acid treatment,. flowed 312 bbls. of oil per hour for seven hours or at the rate of 7,488 bbls. per day, previous to the potential gauge. Main pay was logged from 4,480 feet to 4,510 feet, total depth.

Pecos County received two new wildcat locations in the past week. Helmerich & Payne staked No. 1 Dow Puckett, Section 66, Block 3, in the T.&P. Survey, a 3,500-foot test and O. E. Schkade located No. 1 Neville in Section 72, Block 194 of the G.C.&S.F. Survey, a 2,500-foot test. Materials are being moved in and both tests will get under way in the next few days.

WEST CENTRAL TEXAS

West Central Texas showed an increase in activity over the past week with three possible new producing areas, two in Shackleford County and one in Brown County. A new deep lime oil pool for eastern Shackleford County was seen when Joe De Grazier No. 1 Harbaugh, T.E.L. Survey, 3 miles north of the old Ibex pool, drilled 19 feet of saturated sand topped at 3,615 feet. The test is about 45 feet higher structurally than other wells in the area. Casing has been set, and the test will be drilled in some time next week. A new shallow Fry sand "grass roots" oil pool was also indicated for Shackleford County when W. and T. A. Olinghausen No. 2 W. Gresham, in the southwest of the southeast of Section 7, Asylum Lands Survey, drilled saturated sand at 216-17 feet. Oil started rising in the hole and the well has been estimated at about 10 bbls. per day, pumping. Shackelford County has 1,746 oil wells of which only 40 are producing from sands below 1,600 feet. Of the remaining 1,706 wells, it is estimated that 1,000 of them are in sands less than 600 feet deep.

Brown County received indications of a new oil pool when the Sam Weiner No. 1 M. Beck, in the A. Bendorf Survey, 13 miles northwest of Brownwood, found saturation in the Ellenburger lime at 2,624 feet. Pay was topped 26 feet in the Ellenburger and the test drilled a total of 72 feet of saturated lime. Five-inch casing has been cemented and the well will receive a two-stage acid treatment before a production gauge is taken. If it produces it will be the first Ellenburger well in Brown County.

In Throckmorton County, Danciger Oil & Refining Co. has taken over the Jones & Stasney and Groover & Rose No. 1 C. T. Brockman, deep Marble Falls test, in Block 95, C.I.R. Survey, in the southwestern part of the county. The new owners attempted to locate the source of the salt water which had been choking off the oil flow. The new operators announced last week that the water was coming from the bottom of the hole and that the test would probably be drilled deeper in search of production in the Ellenburger lime. The well had been hailed as a new major pool discovery when it was first estimated for about 1,000 bbls. of oil per day before salt water broke in.

WEST TEXAS COMPLETIONS

(24-hour tests)

Crane County

Sinclair Prairie No. 3 University, 3,510-88 feet, 75 bbls.

Ector County

Arrow Drilling Co. No. 3 H. C. Foster, 4,128-4,275 feet, 944 bbls. Atlantic Refining Co. No. 6-C Ramsey, 4,170-4,285 feet, 431 bbls. M. J. Delaney No. 3 R. W. Smith, 4,160-4,340 feet, 616 bbls. Ohio Oil Co. No. 4 University, 3,500-3,670 feet, 172 bbls. Pantex No. 2-C Cowden, 4,065-4,203 feet, 1,117 bbls. Shell Petroleum Corp. No. 3-A J. E. Witcher, 3,980-4,186 feet, 1,206 bbls. Texas Co. No. 6-B J. E. Parker, 4,050-4,196 feet, 1,387 bbls. Texas Pacific Coal & Oil Co. No. 6 Foster, 4,000-4,175 feet, 1,257 bbls.

Gaines County

Continental Oil Co. No. 1-50 Wasson, 4,865-4,985 feet, 914 bbls.

Howard County

George E. Farley No. 1-B Settles, 2,410-94 feet, 791 bbls. Moore Brothers No. 2-B O'Daniel, 2,638-2,908 feet, 568 bbls.; No. 6-A Snyder, 2,627-2,825 feet, 983 bbls. North Central Oil Co. No. 2-A S. Hyman, 1,307-14 feet, 15 bbls.

Loving County

Standard Oil Co. of Texas No. 8 Allen, 4,225-4,335 feet, 72 bbls.

Schleicher County

J. M. Cooper No. 2 Page, 5,441-5,501 feet, 9,500,000 feet of gas.

Scurry County

S. B. Roberts No. 1 C. M. Wellborn, dry and abandoned at 3,050 feet.

Pecos County

V. P. Kepgen No. 4 Gray, temporarily abandoned at 551 feet. Messenger & Osborn No. 1 Humble-Young, temporarily abandoned at 1,850 feet. Standard Oil Co. of Texas No. 8 Smith, 1,479-1,509 feet, 307 bbls.

Upton County

Brown-Hancock-Hines No. 7-D Elder, 2,230-79 feet, 938 bbls. Humble Oil & Refining Co. No. 25-B Ricker, 2,407-20 feet, 632 bbls.

Ward County

Texas Pacific Coal & Oil Co. No. 11-F Lane, 2,260-61 feet, 292 bbls. Gulf Oil Corp. No. 11 Hutchins, 2,583-2,750 feet, 432 bbls. John Poindexter No. 1 V. Meyers, location abandoned. Texas Pacific Coal & Oil Co. No. 16 Barker, 2,252-2,407 feet, 507 bbls.

Winkler County

Humble Oil & Refining Co. No. 11-D Walton, 2,796-2,890 feet, 632 bbls. Magnolia Petroleum Co. No. 173 Walton, 2,832-2,933 feet, 1,287 bbls.; No. 174 Walton, 2,840-2,946 feet, 1,419 bbls.; No. 170 Walton, 2,830-2,915 feet, 1,757 bbls.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour test)

Brown County

J. D. Hart No. 2 W. J. Richmond, 1,308-28 feet, 10 bbls. Hartzell and others No. 1 Rice, temporarily abandoned at 540 feet. Harvey No. 1 McGinnis, 2,412-2,510 feet, 750,000 feet of gas. Ed Selvidge No. 1-B Perry, 2,120-42 feet, 10 bbls. Whiteside & Rodgers No. 1 Newton, 1,220-44 feet, 54 bbls. Wilder and others No. 1 M. A. Cox, 2,414-61 feet, 15 bbls.

Callahan County

Howell and others No. 1 Ed Vestal, dry and abandoned at 3,800 feet. Phillips Petroleum Co. No. 1 Windham, dry and abandoned at 4,140 feet.

Coleman County

Garrett Oil Co. No. 1 Smith, dry and abandoned at 2,318 feet.

Fisher County

Sinclair Prairie No. 6 Steele, dry and abandoned at 3,342 feet.

Shackelford County

J. Dell and others No. 1 Jones Estate, dry and abandoned at 643 feet. Hart and others No. 1 John F. Sedwich, dry and abandoned at 853 feet. Simmons No. 17 Harvey, 1,703-15 feet, 205 bbls. Ungren & Frazier No. 2 McCown, 3,181-3,211 feet, 499 bbls. Wittmer Oil & Gas Prop. No. 1 Nail, 1,398-1,405 feet, 35 bbls. Wrightsman Oil Co. No. 1 Shotwell, abandoned location.

Stephens County

Lone Star Gas Co. No. 1 Brooks, junked and abandoned at 2,137 feet.

PANHANDLE COMPLETIONS

(24-hour tests)

Carson County

Gulf Oil Corp. No. 25 E. Cooper, 3,060-3,161 feet, 155 bbls. Washoma Petroleum Co. No. 2 Percival, 2,770-80 feet, 81,928,000 feet of gas.

Hutchinson County

Magnolia Petroleum Co. No. 7 Southwest O. & D., 3,085-3,100 feet, 324 bbls. Phillips Petroleum Co. No. 6 Gary, 3,205-54 feet, 201 bbls. Stansylvania Oil Co. No. 4 Belle Wisdom, 3,012-3,128 feet, 709 bbls. Texas Plain Oil Co. No. 8 E. E. Watkins, 2,980-3,024 feet, 586 bbls.

Central West Fields

(Continued from Page 75)

gas well, making 100,000 feet from the Berea sand at 1,039-49 feet. In Jefferson Township, Ferguson & Lanning No. 1 J. D. Siron, Section 3, is a small Berea gas well at 1,263 feet.

In Lawrence County, Washington Township, Portage Producers, Inc., No. 6 Cambria Clay Productions Co., Section 12, is a 1,000,000-foot gas well in the Clinton at 2,972-91 feet.

In Licking County, Mary Ann Township, Rutlege & Mosholder No. 2 T. F. Davis, Lot 19, first-quarter, was dry in the Berea sand at 865 feet. In Perry Township, J. Bebout & Son No. 2 David E. Wright, Section 16, is making 2 bbls. of oil per day from the Berea sand at 755-63 feet.

In Lorain County, Avon Township, William Dempsey No. 1 Peter Kneiper, Section 12, was dry and abandoned at 2,422 feet. In Carlisle Township, R. E. Cain No. 1 D. J. Campbell, Section 21, is a gas well, gauging 1,200,000 feet in the Clinton sand at 2,191-96 feet.

In Perry County, Clayton Township, Dittoe and others No. 1 C. A. Beacham, Section 17, was deepened to 3,306 feet for 65 bbls. of oil the first 24 hours after shot. In Reading Township, O'Mara & Sturn No. 1 Grover Flowers, Section 16, was a small gas well in the Berea sand at 943 feet. In Reading Township, Ohio Fuel Gas Co. No. 3 B. S. Yarger, Section 8, is a Clinton sand gas well with a 700,000-foot open flow. The total depth was 2,979 feet.

In Medina County, Liverpool Township, Paul Baldwin No. 2 C. F. Wolf, Section 18, is a dry hole in the Berea at 283 feet.

In Meigs County, Salisbury Township, Ohio Fuel Gas Co. No. 1 Joseph Hysell, Section 34, is a Maxon sand gas well, good for 250,000 feet at a depth of 1,092 feet. In Salisbury Township, H. M. Nelson and others No. 2 William L. Koenig, Section 34, gauged 300,000 feet from the Maxon sand at 990-1,000 feet.

In Monroe County, Center Township, Frank Ward No. 1 Henry Friday Heirs, Section 1, was abandoned at 1,443 feet.

In Tuscarawas County, Dover Township, Brendle Producing Co. No. 1 Columbia Fire Clay Co., Section 9, made 2,400,000 feet of gas from the Clinton at 4,795-4,842 feet. In Lawrence Township, Ohio Fuel Gas Co. No. 1 Andrew Carmack, Section 17, made a small Clinton sand gas well at 4,671-95 feet. In Washington Township, Capital Drilling Co. No. 6 Stewart Asher, Lot 19, had a small showing of oil and gas in the Oriskany sand at 3,728-32 feet. A shot failed to increase the showing and the hole was plugged and abandoned.

In Washington County, Barlow Township, D. T. Orndoff No. 7 Lonnie Perdew, Section 2, was abandoned at 1,509 feet. In Barlow Township, Anderson and others No. 5 Marcus Anderson, Section 4, was dry and abandoned at 1,523 feet. In Decatur Township, Williams Producing Co. No. 5 T. D. Miller, Section 36, is a gas well, gauging 900,000 feet from the Maxon sand at 1,216 feet. In Fairfield Township, Witago Oil Co. No. 1 L. A. Root, Section 13, is a small gas well in the Keener sand at 1,382-86 feet. In Liberty Township, Otto Heldman No. 1 John L. Kitts, Section 20, is a gas well, making 100,000 feet from the Maxon sand at 1,340-45 feet. In Wesley Township, Bowman Brothers No. 1 T. B. Arnold, Section 31, is a 1-bbl. pumper from the Peeker sand at 311-34 feet. The same operators, on the same tract, drilled No. 2 to a depth of 320 feet and abandoned it. In Wesley Township, Bowman Brothers No. 1 T. G. Emmons, Section 31, was dry and abandoned at 325 feet.

Lima Field

In Putnam County, Blanchard Township, Brown and others No. 4 L. U. McCullough, Section 22, drilled the top of the Trenton rock at 1,338 feet. A small oil showing was found at 12 to 20 feet in the Trenton. They are now drilling for the Green sand at 1,590 feet.

In Seneca County, Pleasants Township, Jones & Keiner have recovered sand line and bailer on their No. 25 C. M. Comb, and are now drilling at about 700 feet.

EASTERN KENTUCKY

ASHLAND, Ky., Sept. 12.—Ray Eastin reports the completion of his No. 10 R. I. McLyn, on Log Fork of Walkers Creek in the Hell Creek district of Lee County. It started at 8 bbls. of oil daily.

Price Fraley and others No. 4, Flahaven Land Co. land, on Big Sinking, in the district of that name in Lee County, was dry. In the same district, South Penn Oil Co. was drilling at 500 feet in No. 111 on the Flahaven company land. Rush Cable had reached 200 feet in No. 9, E. S. Moore tract No. 1, on Little Sinking.

Virginian Gas & Oil Co. has a Maxon sand dry hole in No. V-1266 on Federal Gas & Oil Co. land on Coldwater Fork in Martin County, at 1,578 feet. Same company's No. V-1268, Virginia Gas & Oil Co. land No. 4, on Big Crooked, in Martin County, was dry at 1,349 feet.

Operator Diederich reports the completion of No. 6, Amy Pauley land (Stepp), on Big Crooked in Martin County, at a total depth of 1,449½ feet, in Maxon sand, with a flow of 10 bbls. of oil daily.

Jones & Lindsey completed No. 2 Bell Wells, on Levisa Fork in Floyd County, at a total depth of 2,803 feet, in Corniferous lime, with a flow of 403,000 feet of gas daily.

In Knott County, Inland Gas Corp. was down 1,883 feet, in sand, in No. 202 Elizabeth Adams, on Right Fork of Troublesome Creek. The same company made a location for No. 203 Curtis Pigman, also on Right Fork of Troublesome Creek, and is pulling tubing from No. 33 Virginia-Kentucky Coal Corp., on Combs Branch of Laurel Creek.

Francis and others made a location for No. 1 Alice Smith, on Right Fork of Troublesome Creek, and United Carbon Co. for No. 1 George W. Cornett No. 744, Combs Branch of Laurel Creek.

In Floyd County, the Warfield Gas Co. is down 580 feet, in sand, in No. 4810 Mary B. Runyon and others, on Toler Creek, with drilling continuing in sand. Kentucky-West Virginia Gas Co. was drilling at 170 feet in No. 574 John and Benjamin Seliards, on Levisa Fork, and at 1,240 feet in No. 575, Henry C. Slone land, also on Levisa Fork.

In Martin County, Kentucky-West Virginia Gas Co. was drilling at 2,122 feet, in shale, in No. 402 Spencer Slone. Same company was drilling at 175 feet, in sand, in No. 5243, C. W. Preece land, on Coldwater Fork; spudded No. 5246 Alie Ward, and is moving to 5191 W. R. Crum, preparatory to deepening.

Warfield Gas Co. was down 83 feet, in sand, in No. 4782 John D. Cornett, on Muddy Branch, in Martin County. Huntington-Oklahoma operators made a location for No. 1 W. R. McCoy, on Tug Fork. George Hale and others made location for No. 1 J. B. Stepp, on Lackey Branch, in Martin County. James Webb and others made a location for No. 1 Martha Spears, on Laurel Fork, also in Martin County.

In Wolfe County, James I. Hollon was drilling at 3,500 feet in No. 1 D. H. Rose, on Red River.

In Pike County, Mountain Oil & Gas Co. is shut down in Big Lime at 2,000 feet in No. 1 O. T. Alley, on Blackberry Bend. Mountain Oil & Gas Co. is shut down in No. 1 Varney & Deskins Heirs, on Blevins Branch.

In Johnson County, Kentucky-West Virginia Gas Co. is down 900 feet, in Big Lime, in No. 576 Julia Ward, on Wiley Branch of Levisa Fork.

California Fields

(Continued from Page 90)

zone or another deeper productive horizon. The well is down 14,018 feet with top of the Eocene logged at 13,600 feet.

North Belridge

The Texas Co. completed its fourth excellent producing well in the North Belridge field of Kern County. No. 4 Martin, flowing 3,850 bbls. of 31.3 gravity oil and 3,520,000 feet of gas per day from the Wagonwheel zone of Eocene age, with bottom of the hole at 8,513 feet. It was completed with open line but was subsequently cut back by flowing through a bean. Richfield Oil Corp. No. 2 Belridge which was completed last week, flowing 1,290 bbls. of clean 32.1 gravity oil and 2,925,000 feet of gas per day from the Wagonwheel zone, has been cut back to 514 bbls. per day, producing through a 12/64-inch bean, and under this restraint the tubing pressure has jumped to 1,620 pounds and the casing pressure to 2,000 pounds.

Coastal Area

In the Elwood field of Santa Barbara County, Barnsdall Oil Co. recompleted No. 19 Luton Bell flowing 25 bbls. of 39.1 gravity oil cutting 25 per cent after the hole had been deepened from the Vaqueros to the Sespe and finished at 5,690 feet. In addition to the small quantity of crude oil the well is making 2,570,000 feet of gas per day. This well is on property owned jointly by Barnsdall Oil Co. and Richfield Oil Corp. with the former in charge of development work.

In the Santa Barbara Mesa field, Irvine Oil Co. recompleted No. 1 Lowe, pumping 24 bbls. of 15.3 gravity oil daily after the hole which is bottomed at 2,080 feet had been redrilled to 1,905 feet. This well failed to hold up on steady production and further tests will be made. Trans-Oceanic Oil Co. has deepened No. 1 Morrison in this field and will make a production test this week. It has 623 feet of 4½-inch blank liner in the hole and preparations are under way to gun perforate at selected spots. It is the present intention to test out the upper part of the Sespe zone where indications point to possible production.

Los Angeles Basin

In the northwest end of the Long Beach field, Hilldon Oil Co. completed No. 4 Bixby Pool, flowing 373 bbls. of relatively clean 24.3 gravity oil per day from the Pliocene at a depth of 4,386 feet. In the West Coyote field Severns Drilling Co. completed No. 1-A McNally pumping 149 bbls. of 28.1 gravity oil cutting 3 per cent from 5,617 feet. The southern end of the Dominguez field has taken on a rather promising outlook due to an oil sand logged by Shell Oil Co. in No. 95 Reyes and on the hope that this zone might extend beyond the present accepted limits of production, Selbar Oil Co. has taken a lease on Richfield Oil Corp.'s old Dominguez lease and is building a rig over well No. 1 which was abandoned at 4,248 feet.

In the Palos Verdes Hills, located south of the Harbor City area where operators have developed commercial production, the Rolling Hills Petroleum Co. has recovered the "fish" that has retarded work for several weeks and is preparing to run in a string of 7-inch casing for a test of some oil sand cored in the bottom of the hole.

In the San Fernando Valley, Tide Water Associated Oil Co. has failed to develop commercial production in No. 1 Porter in Section 27-3-16 at 3,799 feet and is drilling ahead.

Porosity of Sundance Sands of Lance Creek Oil Field, Wyo.

The growing importance of the Sundance (Jurassic) formation as a source of oil in the Rocky Mountain area has prompted the Bureau of Mines to release analyses of the porosity of the reservoir sands. This work is preliminary to a fluid-energy study of the basal Sundance reservoir of the Lance Creek oil field, Niobrara County, Wyoming. The determinations of porosity will be used in calculating volumetric capacity of the reservoir and in estimating the reserves of oil and gas.

The effective porosity of the sand comprising the basal series of the Sundance formation in the Lance Creek oil field, with a varying thickness of 57 to 118 feet and averaging 90 feet in 27 wells, ranges from 13 to 27 per cent. The results of about 135 porosity determinations are presented in tabular form and are shown graphically upon three cross-sections of the reservoir. The weighted average effective porosity covering tests on 920 feet of sand was 21.2 per cent. The lower porosity values in general were found in the upper sand of the basal series in portions of the field where the upper sand is thin.

Canadian Crude Freight Rates May Be Adjusted

CALGARY, Alberta.—Officials of Canadian transcontinental railroads are interesting themselves in the freight rate question in relation to Turner Valley crude. S. J. Hungerford, president, and E. A. Warren, vice president, of Canadian National Railways, have inspected the field and conferred with representatives of the oil operators. Sir Edward Beatty, president of Canadian Pacific Railway, with officials of that company, will make a similar visit early in September.

It has been intimated the railroads are prepared to make voluntary adjustments of rates on Turner Valley crude without an application to the Dominion Railway Commission. It is believed a rate of 90 cents per barrel from Calgary to Fort William, enabling Turner Valley crude to enter Ontario refining markets, is within the limits of possibility.

Proposed building of a crude pipe line from Moose Jaw to Bishopric, Saskatchewan, has been abandoned, following a satisfactory adjustment of freight rates on crude.

Michigan Field Report

By
O. C. PRESSPRICH

Freeman Pool, Clare County, Develops Large Production

SAGINAW, Mich., Sept. 12.—Clare County's new Freeman Township pool leaped into the limelight among Michigan fields the past week with two sensational confirmation tests, each surpassing the Higelmire Trust's recent discovery in Section 3-18n-6w. Both were offsets to the discovery well, and forecast a flurry of extension activity for the new field. Both wells were surprises in that their production far exceeded the output of the first completion, and gave indications of profit to be found in pushing development of the area toward the north and east.

Socony-Vacuum Oil Co. No. 1 VanHorn, SE NW NW Section 3-18n-6w, the north offset, led off with an acidized production variously placed at from 2,100 to 2,700 bbls. daily, either figure ranking it among the state's largest producers. After the first two hours the well was tightly pinched in, due to lack of storage. The first hour gauge after the acid treatment was 175 bbls. of oil. It flowed 110 bbls. the second hour.

The second surprise came when Gulf Refining Co. east offset to the Higelmire well, No. 1 VanHorn, NW SE NW Section 3, made an acidized showing of 832 bbls. of oil in 13 hours, a producer expected to double the run of the discovery well. Higlemire Trust's No. 2 VanHorn, another offset to the discovery, was expected to drill in momentarily to add further to the new field's output.

Plan Extension Test

Operators hastened plans for extension tests in Freeman and in adjacent Redding Township (19n-6w), due to the heavy producing offsets tapped the past week. Pure Oil Co. projected half a dozen tests immediately in Freeman, and Redding Township, immediately north, where Pure No. 1 Switzer, C S half NW SW Section 27, was reacidized. The Pure test in Redding is 1½ miles north of the Higelmire discovery in Freeman, and is looked upon as a barometer to indicate productiveness of territory to the north of the Freeman strikes. While a favorable showing was indicated, heavy production similar to the offset tests tapped in Freeman was not expected at the Pure test. Indications were, however, that it would be a commercial producer.

Socony-Vacuum reacted to its prolific strike at No. 1 VanHorn by locating and obtaining permits to drill four more wells on the same lease, and in Section 3 of Freeman. Other permits for the area were expected this week.

Freeman Main Attraction

The heavy Freeman Township play last week won honors from the southwestern Michigan fields, especially the Overisel Township, Allegan County, pool, where no completions were logged for the week although a number of extension tests were drilling. The Overisel play and its extension into surrounding townships has occupied the state's oil picture for the past month. Alllegan County fields, which perhaps just now show more activity in various townships than any other region in Michigan, slumped during the week, mainly due to seven dry holes, resulting from attempts to determine the extent of the Overisel field. There were three producers, only one of which was an extension of the Overisel pool into Heath Township, immediately south. Incidentally, it was the top ranking producer in the field for the week. It was Lima Oil Corp No. 1 Gates, NE SW NE Section 1-3n-14w, which made an estimated 600 bbls. daily, pinched in. Section 1 of Heath adjoins on the south Section 36 of Overisel, discovery sector of the Overisel field.

Allegan County

Dorr Township (4n-12w)—What was pointed out as a probable southwest production trend from the Overisel discovery was developed at Crown Development Co. No. 1 Shields, NE SE SW Section 30, where a small natural showing in the Traverse was acidized to a 200-bbl. daily producer. Unexplored intervening territory left some doubt as to the production trend, some believing it more probably a Dorr Township extension, rather than linked with the Overisel pool. Two of the seven dry holes in Allegan County were in Dorr Township. Both were tests of the Eureka Development Co., the No. 1 Bachman, NE SE NE Section 30, and the No. 2 Bachman, SW SE NE Section 30.

Monterey Township (3n-13w)—Third producer of the week in Allegan fields was Muskegon Development Co. No. 3 Swanders, SW NE SW Section 9, acidized to a 200-bbl. daily production. Another Monterey test of Charles Smith No. 1 Beck, SW NW NE Section 4, was acidized and was testing late in the week after a favorable commercial show.

Heath Township (3n-14w)—Besides the large natural producer topping Allegan wells of the week in Section 1, an attempt to extend the field westward appeared successful, setting up a boundary extension of the Overisel field southwest from the discovery well. The test was Eugene I. Adams No. 1 Schra, SE NE NE Section 2. It was being acid-treated after favorable indications.

Five failures in as many townships of Allegan County, together with the two in Dorr, contributed mainly to the state's total of 12 dry holes for the week, more failures than in a like period in many months. The 12 failures in all fields were balanced by 10 producers. Allegan failures included the following: Daily Crude Oil Co. No. 1 Anderson, SW SE NE Section 17-2n-15w; Fred H. Gilde No. 1 Lampen, NW NE NW Section 32-4n-13w; Gladstone Oil & Gas Co. No. 2 Emmons, SE SW SW Section 22-1n-13w; Miller Brothers and Spencer Cook No. 1 Wood, SE NE SW Section 3-1n-12w; United Petroleum Co. No. 1 Low, SW SW SW Section 24-1n-15w.

Gladwin County

Buckeye Township (18n-1w)—Midway sector development in the south (Oard) pool continued last week, with two favorable producers keeping Buckeye in new production. Marshall H. Bauman No. 2-B Hostetler, SE SW NE Section 27, continued to develop the western part of the field with a 500-bbl. acidized producer, one of the best in the section. Bell & Marks No. 2, NE SW NW Section 26, rated about 300 bbls. daily. New production has slackened somewhat in Buckeye in the face of extensive play in newer Michigan fields, but Buckeye continues to hold top ranking honors of producing fields in the state.

Bentley Township (17n-2e)—One of the best producers in Bentley in several weeks was tapped at R. E. King No. 1 LaFurgey, NW SW NE Section 20. It rated an acidized production of 100 bbls. daily.

Arenac County

Arenac Township (19n-5e)—R. L. Hill No. 1 Reinhard, SE NE SE Section 25, failed to log commercial production, and was abandoned last week.

Midland County

Edenville Township (16n-1w)—With a favorable producer in the discovery area, and two failures, one northwest and the other east of the discovery, Edenville continued cautious development with boundaries being gradually defined. The lone producer was Sun Oil Co. No. 10-B State-Edenville, NE NE SE Section 27, rated at 150 bbls. per day and scheduled for acid. The boundary failures included Sun Oil Co. No. 1-E State-Edenville, NE NE NE Section 20, about 2 miles northwest of the discovery, and Robert E. King No. 2 Wolverine Power Co., SW NE NW Section 26, about a mile east of the discovery. Formation data gathered at the dry tests in widely separated locations were said to correspond with the producing area.

Clare County

Grant Township (17n-4w)—A small producer was developed last week at American Production Co. No. 1 Whiteside, C W half Section 36, rated at 20 bbls. naturally. The test will be treated. Last week the test showed possibilities of oil production from the Michigan Stray gas formation, and was rated a freak well. Operators decided to develop it as an oil producer, despite the experience at James R. McKay's well, half a mile northwest, which likewise picked up oil production of about the same amount in the Michigan Stray, and later failed. The Whiteside test bottomed at 1,320 feet. It is a southeastern outpost of the Grant field. It is half a mile south of Gulf's 14,000,000-foot gasser.

Barry County

Hope Township (2n-9w)—Associated Development Co. No. 1 Natzel, NW NW SW Section 4, only active test in the township, was abandoned last week.

Kent County

Gratten Township (8n-9w)—An attempt to obtain commercial production at William A. Comstock Trust No. 1 Donovan, SW NE SE Section 4, failed, and the test was abandoned.

Production by Fields

Daily Average for August, 1938

Pool—	Wells	Runs (bbls.)
Porter-Yost	403	7,232
Greendale-Chippewa	224	1,806
Geneva-Midland	2	13
Fremont-Isabella	1	13
Sherman-Isabella	62	2,733
Wise-Isabella	1	18
Vernon-Leaton-Denver	86	1,086
Freeman-Clare	1	596
Beaverton	23	241
Edenville	29	2,486
Bentley-Gladwin	28	761
Buckeye-Wicklund-Oard	424	17,510
Ogemaw	226	2,612
Secord-Gladwin	2	3
Adams-Arenac	8	160
Clayton-Arenac	52	3,318
Tuscola	1	14
Saginaw area	57	63
Birch Run	25	49
Dundee-Monroe	3	19
Montcalm County	61	725
Allegan area	152	7,652
Muskegon	86	82
Total	1,957	49,192

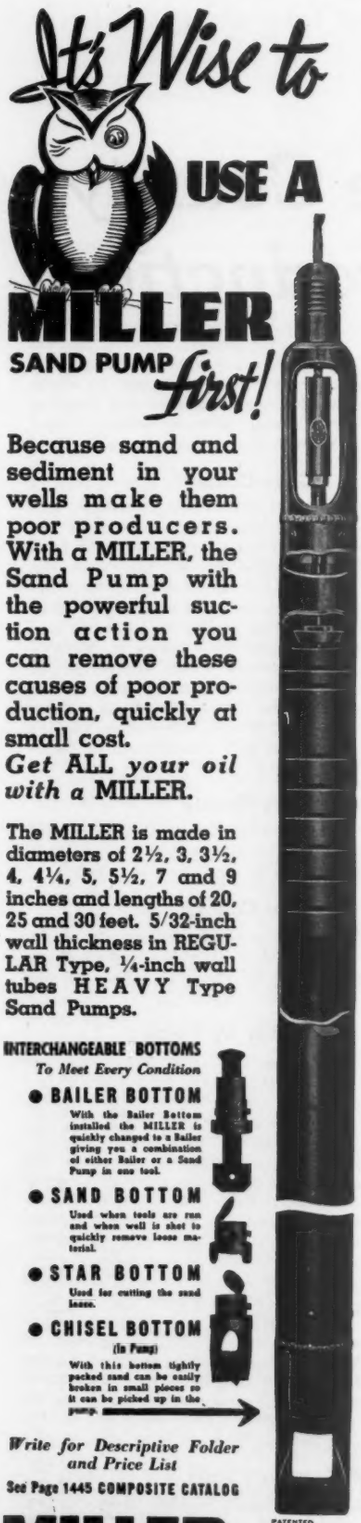
State-Owned Lands Will Be Auctioned by Department

SAGINAW, Mich.—Another public auction of oil and gas lease rights on state-owned lands has been ordered for October 7 by the State Conservation Department, listing 12,357 acres in three counties. The land to be auctioned is listed as follows:

Osceola County: Cedar Township, 1,280 acres; Middle Branch, 1,284 acres; Hartwick, 2,627 acres; Marion, 760 acres; Highland, 520 acres.

Roscommon County: Nester Township, 3,745 acres; Roscommon, 640 acres; Richfield, 640 acres; Higgins, 780 acres.

Saginaw County: Richland Township, 80 acres.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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Sept. 10.—Crude production from all Alberta fields in July totaled 678,243 bbls., compared with 521,895 bbls. in June. The previous high was 546,719 bbls. in May. Proration in Turner Valley in July was 37 per cent, while for the first 17 days of June it was 30 per cent. Turner limestone production in July was 673,098 bbls. compared with 515,879 bbls. in June.

Oil Allowables Scheduled

Effective September 2, the Oil and Gas Conservation Board set new production quotas for 51 crude producers on the Turner Valley west flank. Allowables were determined by the new method adopted by the board and are based on immediate market requirements of 28,000 bbls. a day. This represents approximately 60 per cent of actual production taken through a 2-inch orifice. Under the new system the market requirement sets the aggregate allowables; and the contribution of each well to the market requirement will fluctuate in accordance with increased or decreased demand.

Quotas of individual wells are determined by a formula which takes into account acreage, bottom-hole pressure, gas-oil ratio and the rate of flow through the well tubing and a 2-inch orifice 12 inches long. The latter indicated an aggregate flow for the entire field of 47,000 bbls. a day.

The schedule will be subject to change as the wells by test indicate their true rate of flow and efficiency.

West Side Drilling

In Section 13-19-3w5, West Central Turner Valley, Sun Ray Oil Development Co. No. 1, LSD 8, is below 100 feet after setting surface casing. H. E. Morgan is in charge, and cable tools are being used. Drilling is on acreage subleased from Calgary & Edmonton Corp., and will test a potential extension of the field about 3 miles northwest of Vulcan-Brown No. 1 producer.

In Section 32-18-2w5, Royalite Oil Co. No. 36, LSD's 13-14, is rigging. British Colonial Oils No. 1, LSD 5, is fishing at 1,430 feet.

In Section 16-18-2w5, Brown Oil Corp. No. 5, LSD 12, is in the Blairmore formation below 6,294 feet. Okalta No. 7, LSD 3, is rigging rotary, to resume from 3,050 feet, where 10¼-inch casing was cemented.

In Section 9-18-2w5, D.&D. Oils No. 1, LSD 12, southwest of National Petroleum No. 2 producer, is below 1,417 feet.

In the far south, Anglo-Canadian Oil Co. No. 2, LSD 2, Section 33-16-2w5, has been shut down at 6,280 feet, pending a decision as to deeper drilling. The test logged much deeper than anticipated, due to faulting, and at the last depth was back in the Belly River formation.

Turner Valley Completions

On the west flank of South Turner Valley, Mercury Royalties No. 1, LSD 8, Section 5-19-2w5, finished in the lime at 6,666 feet, has been given temporary allowable of 300 bbls. a day, pending official test.

In Section 29-18-2w5, Davies Petroleums No. 1, LSD 2, finished at 7,375 feet, was acidized, increasing allowable production under the new schedule to 1,201.8 bbls. a day. Royalite Oil Co. No. 31, LSD 6, same section, finished at 8,064 feet, was given potential of 818 bbls. under the old rating. The new allowable is 973.6 bbls.

Commoil No. 2, LSD 10, Section 29-18-2w5, finished at 7,665 feet after getting the Madison at 7,196 feet, flowed about 600 bbls. natural production through tubing. It has been acidized and is making official test.

In Section 17-18-2w5, Royalite Oil Co. No. 32, LSD 8, finished in the lime at 7,308 feet, with 1,893 bbls. potential under the old rating, has been given allowable of 672.5 bbls. a day.

In Section 16-18-2w5, Brown Oil Corp. No. 1, LSD 14, is lowering tubing to improve oil-gas ratio. The well had a rated potential of 1,645 bbls. a day, but the gas ratio of 7,250 feet per barrel led to the reduction of the allowable to 424.4 bbls. a day.

Western Extension

West of the proven crude area, Scottish Petroleums No. 1, LSD 16, Section 19-18-2w5, is erecting new steel derrick for rotary outfit. Drilling will resume from around 850 feet. Location is about a mile west of the nearest producer, and a little south of Okalta Oils No. 6, which got the Madison limestone at 9,731 feet. Farther east, Anglo-Canadian Oil Co. No. 1, LSD 16, Section 31-18-2w5, is below 6,116 feet.

Border Fields

In the Taber field, southern Alberta, North Taber Royalties No. 1, LSD 7, Section 10-11-15w4, is deepening after cementing 10-inch casing in the upper Alberta shales at 837 feet. The artesian water horizon was encountered in the upper Milk River sandstone at 604 feet with a considerable gas flow at 614 feet. Two more gas horizons were encountered below the shale break between the upper and lower Milk River. The gas flow is estimated between 2,000,000 and 3,000,000 feet. The well is logging higher than expected, with the Bow Island gas sand expected around 1,950 feet and the oil-producing horizon of the Ellis about 2,950 feet.

Manitoba Oil Showing

In southwestern Manitoba, Gates Petroleum No. 1 near Pilot Mound is below 1,100 feet. New boiler has been installed and casing is being carried close behind the tools on account of caving. Oil showings have been found at 803 and 1,017 feet, and commercial production is looked for between 1,600 and 1,800 feet.

Ontario Operations

In the De Clute field, Kent County, Ontario, Union Gas Co. No. 41, Lot 146, Talbot Road, Raleigh Township, finished at 1,550 feet with 1,300,000 feet production.

In the Tilbury field, Kent County, Union Gas Co. No. 305, Lot 181, Talbot Road North, Romney Township, finished at 1,275 feet with 500,000 feet a day natural production.

In Dawn Township, Lambton County, Union Gas Co. No. 96, Lot 24, Concession 4, is below 1,635 feet.

In the Haldimand field, Union Gas Co. No. 207, Lot 3, Concession 3, Rainham Township, finished a dry hole around 900 feet. Union No. 208, Lot 1, Concession 3, Rainham, finished at 950 feet with 40,000 feet a day. Union No. 209, Lot 2, Concession 2, Rainham, is drilling.

In Elgin County, Union Gas Co. No. 2 Malahide, Lot 94, South Talbot Road, Malahide Township, is at 285 feet and repairing rig to pull drive pipe. Union No. 3 Malahide, NW cor. Lot 3, Concession 11, South Dorchester Township, is below 700 feet.

In the Brownsville field, Western Ontario Natural Gas Co. No. 1 Clark, Lot 2, Concession 9, Bayham Township, was completed around 950 feet, with several gas pays, aggregating about 1,200,000 feet a day. Kidd-Adams No. 2 Cheeseman, Lot 1, Concession 10, Bayham, is below 800 feet.

Northwest of the proven field, Reed-Adams Development Co. No. 1 Duffin, Lot 10, Concession 4, West Nissouri Township, is spudding.

Bothwell Shallow Pool

In the Bothwell shallow pool, in Zone Township, Kent County, new drilling has brought the crude production back to about 3,000 bbls. a month. About 300 wells are being pumped, the jerker-rod system with central pumping units being used. Hydroelectric power is used to some extent for pumping. Domestic Oil & Gas Co. accounts for about 1,100 bbls. a month, there being also a number of individual producers. The proven field is about 10 miles east and west and 6 miles north and south, production being encountered around 400 feet. About 11 new wells have been drilled recently, and the Domestic Oil & Gas Co. is drilling an additional well itself, and has let contract for another.

Production was first found south of Bothwell about 1866, resulting in a spectacular but short-lived boom. About 1894 the present field west of Bothwell was opened by F. J. Carman, and has produced ever since. In the early drilling the practice was to space wells 400 feet apart, on the theory that a well would draw from a 200-foot radius; but it is now believed that this practice secures only about 25 per cent of potential production, and it is planned to drill between existing wells.

Domestic Gas & Oil Co. is also starting a test 3 miles west of the present western edge of the proven field, and a short distance from Thamesville, which is expected to prove an extension of the original shallow field.

British Columbia Test

In the Fraser Valley area, British Columbia, Natural Gas Development Corp. No. 1 in the Boundary Bay district is cleaning out and running 6-inch casing to bottom, around 4,000 feet. Oil and gas shows were encountered at 3,890 and 3,967 feet and test will be deepened to 4,500 feet, with prospects of commercial production at 4,300 feet. Boundary Bay Oil & Gas Syndicate is handling completion of the well.

In the Sage Creek area, southeastern British Columbia, Columbia Oils No. 1 will be deepened from 8,007 feet.

Summary of Operations in All Fields, August

SUMMARY OF OPERATIONS

Wells Completed

	Comp.	Prod.	Dry	Gas
Eastern fields	302	1,132	32	58
Lima	2	0	1	1
Central Ohio	91	497	23	45
Indiana	15	345	4	5
Illinois	188	34,919	47	0
Michigan	76	15,500	37	3
Eastern Kentucky	22	240	4	4
Western Kentucky	35	3,510	27	4
Kansas	104	33,650	24	2
Oklahoma	109	12,023	38	11
N. Central Texas	364	103,978	116	5
E. Central Texas	28	1,908	16	1
East Texas	108	4,650	3	0
East Texas border	10	2,045	4	1
West Texas	193	147,438	33	0
Texas Panhandle	51	14,671	3	12
Southwest Texas	214	24,680	54	7
Texas Gulf Coast	140	43,992	27	3
La. Gulf Coast	52	11,678	21	0
North Louisiana	75	13,550	19	17
Arkansas	23	11,760	5	0
Mississippi	1	0	1	0
Montana	15	828	1	3
Wyoming	8	784	1	0
Colorado	2	0	2	0
New Mexico	57	15,391	9	5
Utah	1	0	1	0
Nebraska	1	0	1	0
Total Aug.	2,287	499,169	554	187
Total July	2,122	446,097	527	147
Difference	165	53,072	27	40

Rigs and Wells Drilling

	Rigs	Dlg.	Ttl.
Eastern fields	82	316	398
Lima	2	11	13
Central Ohio	37	96	133
Indiana	2	54	56
Illinois	32	282	314
Michigan	23	124	147
Eastern Kentucky	3	24	27
Western Kentucky	0	81	81
Kansas	33	202	235
Oklahoma	48	284	332
North Central Texas	95	299	394
East Central Texas	18	47	65
East Texas	23	46	69
East Texas border	2	12	14
West Texas	71	272	343
Texas Panhandle	20	93	113
Southwest Texas	36	192	228
Texas Gulf Coast	25	96	121
Louisiana Gulf Coast	9	118	127
North Louisiana	27	69	96
Arkansas	16	35	51
Mississippi	7	2	9
Florida	1	1	2
Montana	2	58	60
Wyoming	5	63	68
Colorado	1	34	35
New Mexico	14	130	144
Utah	1	4	5
Nebraska	3	5	8
Total Aug.	638	3,050	3,688
Total July	683	3,040	3,723
Difference	45	10	35

KANSAS

Summary of Field Operations

County:	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Barber	0	0	0	0	0	3
Barton	20	8,437	0	0	4	25
Butler	7	90	4	0	2	9
Coffey	0	0	0	0	0	1
Cowley	3	352	2	0	2	14
Ellis	6	4,719	1	0	2	13
Ellsworth	0	0	0	0	0	1
Ford	0	0	0	0	0	1
Graham	1	0	1	0	1	0
Grant	1	0	0	1	0	1
Greenwood	4	20	2	0	0	15
Harvey	1	15	0	0	0	3
Jackson	1	0	1	0	0	0
Kingman	0	0	0	0	0	1
Kearny	1	0	0	1	0	0
Marion	0	0	0	0	2	2
Meade	0	0	0	0	0	2
McPherson	6	1,247	1	0	0	6
Ness	5	310	3	0	0	1
Norton	0	0	0	0	0	1
Ottawa	0	0	0	0	0	1
Pratt	0	0	0	0	1	0
Reno	0	0	0	0	0	7
Rice	13	5,497	6	0	6	23
Riley	1	0	1	0	0	0
Rooks	0	0	0	0	0	5
Rush	0	0	0	0	0	1
Russell	15	4,772	0	0	4	21
Saline	0	0	0	0	0	1
Sedgwick	2	239	0	0	2	5
Scott	0	0	0	0	0	1
Stafford	13	7,949	2	0	4	23
Stevens	0	0	0	0	0	1
Sumner	0	0	0	0	1	2
Thomas	0	0	0	0	0	1
Waub'nsee	0	0	0	0	0	1
Woodson	4	3	0	0	2	10
Ttl. Aug.	104	33,650	24	2	33	202
Ttl. July	91	14,891	30	5	34	198
Difference	13	18,759	6	3	1	4

OKLAHOMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Atoka	0	0	0	0	0	1
Beckham	0	0	0	0	0	2
Caddo	3	413	0	0	4	12
Carter	5	1,144	1	0	1	11
Choctaw	0	0	0	0	0	1
Coal	0	0	0	0	0	1
Comanche	3	9	1	0	0	5
Cotton	1	0	0	1	0	0
Creek	7	45	6	0	2	34
Ellis	1	0	1	0	0	0
Garfield	1	0	1	0	0	3
Garvin	1	125	0	0	0	2
Grady	2	244	0	0	1	2
Haskell	2	0	0	2	0	0
Hughes	0	0	0	0	1	6
Jackson	1	70	0	0	0	2
Jefferson	3	6	2	0	0	4
Kay	1	1,320	0	0	1	4
Kingfisher	0	0	0	0	0	1
Kiowa	0	0	0	0	0	2
Latimer	1	0	0	1	0	0
Lincoln	7	476	0	0	1	8
Logan	0	0	0	0	1	3
Love	0	0	0	0	0	1
Marshall	0	0	0	0	0	1
Murray	0	0	0	0	0	1
Muskogee	5	10	0	4	2	6
Noble	2	0	2	0	0	5
Okfuskee	3	105	2	0	1	7
Oklahoma	3	1,945	1	0	5	9
Okmulgee	2	0	2	0	3	28
Osage	6	173	2	0	1	17
Pawnee	4	49	2	0	1	4
Payne	1	0	1	0	0	4
Pittsburg	0	0	0	0	1	2
Pontotoc	16	845	4	2	4	18
Pottawatomie	11	3,777	1	0	10	31
Seminole	11	1,039	7	0	6	27
Stephens	2	20	0	1	1	5
Tillman	1	205	0	0	0	3
Tulsa	1	0	1	0	1	6
Wagoner	2	3	1	0	0	3
Washita	0	0	0	0	0	2
Ttl. Aug.	109	12,023	38	11	48	284
Ttl. July	133	15,216	61	7	61	294
Difference	24	3,193	23	4	13	10

WEST CENTRAL AND NORTH TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Archer	19	3,604	6	0	2	17
Baylor	1	0	1	0	1	2
Brown	5	30	1	0	1	16
Callahan	4	0	4	0	0	4
Clay	13	707	7	0	2	12
Coleman	5	56	2	1	0	7
Comanche	3	0	3	0	2	4
Cooke	14	293	4	1	3	7
Denton	1	0	1	0	1	2
Erath	0	0	0	0	0	2
Eastland	1	30	0	0	1	8
Fisher	8	1,258	5	0	0	7
Foard	2	0	2	0	1	0
Hamilton	0	0	0	0	0	2
Haskell	1	0	1	0	1	4
Hardeman	1	0	1	0	0	0
Jack	51	4,090	17	2	12	23
Johnson	0	0	0	0	0	1
Jones	15	2,330	5	0	1	19
Knox	1	0	1	0	0	1
McCulloch	0	0	0	0	0	2
Montague	6	358	3	0	1	8
Palo Pinto	1	0	0	1	1	3
Parker	0	0	0	0	0	5
Shackelford	19	2,816	7	0	6	10
Stephens	1	37	0	0	0	6
Tarrant	0	0	0	0	0	1
Taylor	3	5	2	0	0	0
Throck-morton	4	0	4	0	0	5
Wichita	147	82,911	24	0	49	93
Wilbarger	9	1,795	2	0	1	5
Wise	1	0	1	0	0	4
Young	28	3,658	12	0	9	19
Ttl. Aug.	364	103,978	116	5	95	299
Ttl. July	263	68,746	89	5	101	335
Differ.	101	35,232	27	0	6	36

WEST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Andrews	5	10,672	0	0	3	9
Brewster	0	0	0	0	0	3
Cochran	0	0	0	0	1	1
Coke	0	0	0	0	0	1
Crane	10	5,567	3	0	4	12
Crockett	1	0	1	0	0	1
Culberson	0	0	0	0	0	4
Concho	2	0	2	0	0	0
Dawson	0	0	0	0	0	1
Ector	61	68,590	3	0	10	71
El Paso	0	0	0	0	0	1
Gaines	5	2,720	2	0	0	4
Garza	0	0	0	0	0	1
Glasscock	0	0	0	0	0	1
Hockley	3	0	3	0	0	5
Howard	16	11,365	2	0	10	21
Hudspeth	0	0	0	0	0	2
Irion	0	0	0	0	0	1
Jeff Davis	0	0	0	0	0	1
Kent	0	0	0	0	0	1
Kimble	0	0	0	0	0	2
Loving	1	0	1	0	0	3
Lynn	0	0	0	0	0	1
Menard	1	0	1	0	0	1
Martin	1	0	1	0	0	1
McCulloch	0	0	0	0	0	1
Nolan	0	0	0	0	1	1
Pecos	15	1,425	4	0	9	34
Presidio	0	0	0	0	0	2
Reagan	0	0	0	0	0	2
Reeves	0	0	0	0	0	3
Runnels	3	11	1	0	0	2
Schleicher	0	0	0	0	0	2
Scurry	1	0	1	0	0	1
Sterling	0	0	0	0	0	1
Stonewall	2	318	1	0	1	2
Terrell	0	0	0	0	0	2
Tom Green	1	0	1	0	0	2
Upton	16	10,561	1	0	5	11
Val Verde	0	0	0	0	4	1
Ward	20	8,611	3	0	7	28
Winkler	12	14,760	0	0	7	12
Yoakum	17	12,838	2	0	9	16
Ttl. Aug.	193	147,438	33	0	71	272
Ttl. July	142	125,553	15	0	85	295
Difference	51	21,885	18	0	14	23

PANHANDLE DISTRICT

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Carson	7	936	1	4	3	10
Childress	2	0	2	0	0	0
Collings-worth	0	0	0	0	0	2
Deaf Smith	0	0	0	0	1	1
Donley	0	0	0	0	0	1
Dickens	0	0	0	0	0	3
Floyd	0	0	0	0	0	1
Gray	10	3,620	0	0	1	18
Hall	0	0	0	0	0	1
Hutchinson	29	10,115	0	5	14	47
Lipscomb	0	0	0	0	0	1
Moore	3	0	0	3	0	1
Potter	0	0	0	0	0	1
Roberts	0	0	0	0	0	2
Wheeler	0	0	0	0	1	4
Ttl. Aug.	51	14,671	3	12	20	93
Ttl. July	29	8,537	2	8	18	101
Difference	22	6,134	1	4	2	8

EAST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Anderson	3	182	1	0	2	9
Angelina	1	24	0	0	1	1
Cherokee	0	0	0	0	0	2
Dallas	0	0	0	0	0	2
Franklin	4	670	1	0	1	2
Freestone	2	374	0	0	1	3
Grayson	0	0	0	0	2	2
Gregg	43	2,080	1	0	13	25
Henderson	3	0	3	0	2	4
Hill	1	0	1	0	0	0
Houston	1	0	1	0	1	3
Kaufman	0	0	0	0	2	2
Lamar	0	0	0	0	1	0
Leon	2	0	1	1	0	3
Limestone	3	0	3	0	0	1
McLennan	1	0	1	0	1	3
Madison	0	0	0	0	0	2
Nacogdoches	1	0	1	0	0	0
Navarro	2	0	2	0	0	1
Rains	1	0	1	0	1	0
Red River	0	0	0	0	1	3
Rockwall	0	0	0	0	0	1
Rusk	49	1,895	2	0	7	9
Smith	5	173	0	0	2	4
Titus	3	658	0	0	2	2
Upshur	11	502	0	0	1	6
Van Zandt	0	0	0	0	0	3
Ttl. Aug.	136	6,558	19	1	41	93
Ttl. July	148	9,017	13	1	42	95
Difference	12	2,459	6	0	1	2

SOUTHWEST TEXAS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Ttl.
Agua Dulce	0	0	0	0	0	2
Alice (South)	7	1,168	1	0	2	7
Alta Vista	0	0	0	0	0	1
Aviator	1	0	1	0	0	0
Barbacoas	0	0	0	0	0	1
Banderia	1	0	0	1	0	1
Benavides	5	497	0	0	2	4
Branyon	5	210	0	0	0	3
Bruni	0	0	0	0	0	1
Buchannan	1	7	0	0	0	0
Callihan	0	0	0	0	0	1
Charco Redondo	1	0	1	0	0	1
Casa Blanca	9	605	0	0	1	2
Chicon Lake	5	5	2	0	2	0
Charamousca	1	30	0	0	0	0
Clara Driscoll	2	242	0	0	0	4
Colorado	1	75	0	0	0	1
Comitas	1	35	0	0	0	1
Dale	2	55	1	0	0	1
Darst Creek	6	274	2	0	1	4
Driscoll	1	204	0	0	0	1
Dunlap	1	0	1	0	0	1
Dunlay	2	0	2	0	0	1
Eagle Hill	7	470	0	1	2	2
East Placedo	2	0	1	1	0	1
East Premont	0	0	0	0	0	1
Escobas	4	161	0	0	1	1
East White Point	6	827	0	0	0	4
Fitzsimmons	5	640	0	0	0	3
Flour Bluff	1	160	0	0	0	1
Heyser	7	899	0	0	2	3
Hilbig	1	3	0	0	0	0
Henne-Winch-Fariss	0	0	0	0	0	1
Hoffman	12	2,074	0	0	2	4
Killam	2	0	1	1	0	0
Ina	2	5	0	0	0	1
Jenciens	0	0	0	0	0	2
Labbe	0	0	0	0	0	1
La Reforma	0	0	0	0	0	1
La Rosa	1	21	0	0	0	1
Loma Alta	1	0	1	0	0	1
Loma Valdez	0	0	0	0	0	1
Luby	8	763	1	0	2	4
Luling	5	290	0	0	1	3
Lundell	2	75	0	0	0	1
Lytton Sprgs.	1	0	1	0	0	0
Margo	0	0	0	0	0	2
McAllen	1	15	0	0	0	0
McCampbell	1	85	0	0	0	4
Mercedes	0	0	0	0	0	1
Midway	0	0	0	0	0	1
Mirando Valley	0	0	0	0	0	2
Mitchell Lake	0	0	0	0	0	1
No. Kohler	0	0	0	0	0	1
Oakville	1	0	1	0	1	0
Oilton	3	55	1	0	0	1
Piedra de Lumbre	0	0	0	0	0	1
Piedra Pintas	0	0	0	0	0	1
Plummer	0	0	0	0	0	1
Plymouth	1	200	0	0	0	2
Refugio	4	632	0	0	2	4
Richard King	1	0	0	1	1	0
Riddle	1	4	0	0	0	1
Rockdale	4	14	1	1	0	2
Salt Flats	4	250	0	0	0	2
Samfordyce	3	250	0	0	0	2
San Jose	1	0	0	1	0	1
Saxet	8	1,052	0	0	3	5
Seven Sisters	4	542	0	0	1	2
South Burnell	0	0	0	0	0	1
So. Calliham	1	0	1	0	0	0
So. Clara Driscoll	1	96	0	0	0	1
Somerset	0	0	0	0	0	2
Sweden	1	50	0	0	1	0
Teiferner	1	0	1	0	0	1
Tesoro	1	115	0	0	0	1
Tomoconnor	13	10,808	1	0	1	9
Von Ormy	3	13	0	0	1	0
Walnut Crk.	0	0	0	0	0	1
West Saxet	5	449	0	0	2	3
Miscell'neous	32	0	32	0	4	59
Ttl. Aug.	214	24,680	54	7	36	192
Ttl. July	280	43,145	94	8	57	185
Difference	66	18,465	40	1	21	7

TEXAS GULF COAST

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Amelia	2	878	0	0	0	2
Anahuac	5	3,235	0	0	0	2
Bammel	0	0	0	0	1	0
Batson	2	243	0	0	0	2
Bay City	2	615	0	0	1	1
Barbers Hill	1	464	0	0	0	2
Big Hill	1	0	1	0	0	0
Boling	1	0	1	0	1	0
Cedar Point	1	263	0	0	0	1
Cheek	0	0	0	0	0	1
Clam Lake	0	0	0	0	0	1
Clinton	4	0	4	0	0	2
Clear Lake	0	0	0	0	0	1
Cotton Lake	1	145	0	0	0	1
Conroe	2	548	0	0	0	0
Cordelle	1	112	0	0	0	1
Danbury	1	220	0	0	0	1
Dickinson	9	4,696	0	0	2	7
Eureka	3	1,165	0	0	1	4
Esperson	1	182	0	0	1	0
Fairbanks	20	8,247	1	0	4	5
Friendswood	9	5,472	0	0	0	4
Greens Lake	0	0	0	0	0	1
Hankamer	1	0	1	0	0	0
Hardin	10	3,152	0	0	2	5
Hastings	13	7,292	1	0	3	5
High Island	1	125	0	0	0	0
Hitchcock	2	264	1	0	0	1
Hull	2	1,529	0	0	1	0
Humble	2	275	0	0	0	2
Katy	1	0	1	0	0	1
Lockridge	2	430	0	0	1	0
Magnet	0	0	0	0	0	1
Manvel	1	0	1	0	0	2
McCrosky	1	206	0	0	1	0
N. Cheek	1	187	0	0	0	0
Old Ocean	2	610	0	0	0	3
Orchard	1	66	0	0	1	0
Orange	2	338	0	0	0	2
Pierce Jctn.	1	35	0	0	0	0
Seabreeze	1	145	0	0	0	1
Segno	1	74	0	0	0	3
Silsbee	2	1,359	0	0	0	1
S. Liberty	1	0	1	0	0	0
Spindletop	0	0	0	0	1	1
Spanish Camp	2	0	1	1	0	0
Spurger	1	574	0	0	0	1
Thompson	1	251	0	0	0	2
Tomball	4	94	0	2	0	3
Turtle Bay	1	0	1	0	1	0
Van Vleck	0	0	0	0	0	1
W. Columbia	1	121	0	0	0	6
W. Ranch	1	132	0	0	0	0
Withers	3	248	0	0	1	1
Miscell'neous	12	0	12	0	2	15
Ttl. Aug.	140	43,992	27	3	25	96
Ttl. July	157	57,172	30	3	29	124
Difference	17	13,180	3	0	4	28

COASTAL LOUISIANA

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Abbeville	1	136	0	0	1	0
Anse La Butte	1	0	1	0	0	1
Bayou Blue	1	0	1	0	0	1
Bancroft	1	625	0	0	0	0
Bateman Lake	0	0	0	0	0	1
Bay Baptiste	1	53	0	0	0	0

Bay St. Elaine	1	0	1	0	0	1
Bayou Cocotriz	1	988	0	0	1	1
Bayou Des Allemands	1	186	0	0	0	2
Big Lake	0	0	0	0	0	1
Black Bayou	0	0	0	0	0	1
Caillou Island	0	0	0	0	0	1
Cameron Meadows	1	0	1	0	0	2
Creole	0	0	0	0	0	1
Charenton	2	100	1	0	0	3
Cheneyville	2	512	1	0	0	0
Choctaw	0	0	0	0	0	2
Darrow	1	0	1	0	0	3
E. Baton Rouge	1	196	0	0	0	2
Fausse Pt.	0	0	0	0	0	1
Four Isle	0	0	0	0	0	1
Garden Island	0	0	0	0	0	1
Grand Prairie	0	0	0	0	0	1
Hackberry	2	736	0	0	1	6
Hester	1	188	0	0	0	0
Horseshoe Bayou	0	0	0	0	0	1
Jeanerette	0	0	0	0	0	1
Jefferson Island	0	0	0	0	0	1
Jennings	7	2,215	0	0	2	14
Lafitte	1	1,733	0	0	0	4
Lake Barre	1	0	1	0	0	2
Lake Hermitage	0	0	0	0	0	1
Lake Long	0	0	0	0	0	1
Lake Pelto	0	0	0	0	0	1
Leesville	1	386	0	0	0	2
Lirette	0	0	0	0	0	1
Lockport	0	0	0	0	0	3
N. Crowley	1	470	0	0	0	1
New Iberia	5	1,714	1	0	2	3
Port Barre	2	432	0	0	0	2
Potash	0	0	0	0	0	1
Quarantine Bay	0	0	0	0	0	2
Raceland	0	0	0	0	0	3
S. Roanoke	0	0	0	0	0	2
Sorrento	2	0	2	0	0	2
Starks	0	0	0	0	0	2
Sulphur	0	0	0	0	0	3
Timbalier Bay	0	0	0	0	0	1
Valentine	1	0	0	0	0	3
Venice	0	0	0	0	0	1
Villa Platte	2	1,003	0	0	0	5
Vinton	0	0	0	0	0	1
Welsh	3	5	2	0	0	0
W. Gueydan	0	0	0	0	0	2
Woodlawn	0	0	0	0	0	1
Miscell'neous	8	0	8	0	2	18
Ttl. Aug.	52	11,678	21	0	9	118
Ttl. July	56	13,834	19	2	16	123
Difference	4	2,156	2	2	7	5

NORTH LOUISIANA

Summary of Field Operations

Parish:	Comp.	Prod.	Dry	Gas	*Rgs.	Dlg.
Bienville	0	0	0	0	1	1
Bossier	7	130	1	0	2	3
Caddo—other	14	320	4	0	5	15
Caldwell	1	0	1	0	0	1
Catahoula	0	0	0	0	1	0
Claiborne	12	9,100	1	1	2	6
Concordia	0	0	0	0	1	2
De Soto	0	0	0	0	5	0
Grant	1	40	0	0	2	1
La Salle	2	0	2	0	0	1
Lincoln	3	895	0	0	0	0
Madison	0	0	0	0	0	1
Morehouse	6	0	0	6	0	4
Natchitoches	1	0	1	0	1	0
Red River	2	0	2	0	1	2
Sabine	13	1,445	6	0	5	11
Union	7	0	0	7	1	4
Webster	6	1,620	1	3	0	17
Ttl. Aug.	75	13,550	19	17	27	69
Ttl. July	63	17,060	15	12	29	75
Difference	12	3,510	4	5	2	6

*Gas production: Claiborne, 42,000,000 feet; Morehouse, 33,800,000 feet; Union, 46,000,000 feet; Webster, 11,000,000 feet.

ARKANSAS

Summary of Field Operations

County:	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Calhoun	0	0	0	0	1	1
Cleveland	1	0	1	0	0	0
Columbia	3	760	0	0	1	6
Craighead	0	0	0	0	1	0
Crittendon	0	0	0	0	1	1
Lafayette	1	720	0	0	0	0
Lincoln	0	0	0	0	1	0
Little River	0	0	0	0	2	1
Lonoke	0	0	0	0	0	1
Miller—Rodessa	3	860	1	0	1	2
Nevada	2	50	1	0	0	1
Pike	0	0	0	0	1	0
Pulaski	0	0	0	0	0	1
Union	13	9,370	2	0	6	21
Ttl. Aug.	23	11,760	5	0	16	35
Ttl. July	14	9,990	0	0	12	34
Difference	9	1,770	5	0	4	1

EAST TEXAS—BORDER

Summary of Field Operations

County:	Comp.	Prod.	Dry	Gas	*Rgs.	Dlg.
Bowie	1	0	1	0	0	0
Cass—Rodessa	1	935	0	0	0	3
Marion—Rodessa	4	1,085	0	1	0	7
Marion—Other	1	25	0	0	2	0
Panola	0	0	0	0	0	1
Sabine	0	0	0	0	0	1
Shelby	3	0	3	0	0	0
Ttl. Aug.	10	2,045	4	1	2	12
Ttl. July	12	3,990	0	0	11	15
Difference	2	1,945	4	1	9	3

Gas production: Marion County, 28,000,000 feet.

MISSISSIPPI

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Calhoun	0	0	0	0	1	0
George	0	0	0	0	0	1
Harrison	0	0	0	0	1	0
Hinds	0	0	0	0	3	0
Lamar	1	0	1	0	0	0
Simpson	0	0	0	0	2	0
Yalobusha	0	0	0	0	0	1
Ttl. Aug.	1	0	1	0	7	2
Ttl. July	1	0	0	1	6	3
Difference	0	0	1	1	1	1

FLORIDA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Lake	0	0	0	0	1	0
Nassau	0	0	0	0	0	1
Ttl. Aug.	0	0	0	0	1	1
Ttl. July	0	0	0	0	1	1
Difference	0	0	0	0	0	0

ROCKY MOUNTAIN AREA

New Mexico

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Bernalillo	0	0	0	0	1	2
McKinley	1	5	0	0	1	4
Rio Arriba	0	0	0	0	0	2
San Juan	2	51	1	0	0	4
San Miguel	0	0	0	0	0	3
Socorro	0	0	0	0	0	1
Torrance	0	0	0	0	0	3
Valencia	0	0	0	0	0	3
Lea	50	15,329	5	5	10	81
Eddy	2	6	1	0	2	21
Chaves	1	0	1	0	0	4
Otero	1	0	1	0	0	0
DeBaca	0	0	0	0	0	2
Ttl. Aug.	57	15,391	9	5	14	130
Ttl. July	38	10,193	2	1	18	127
Difference	19	5,198	7	4	4	3

Colorado

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Adams	0	0	0	0	0	2
Archuleta	1	0	1	0	0	3
Huerfano	0	0	0	0	0	2
LaPlata	0	0	0	0	0	2
Las Animas	0	0	0	0	0	2
Mesa	0	0	0	0	0	2
Moffat	0	0	0	0	0	3
Park	0	0	0	0	0	1
Prowers	0	0	0	0	0	1
Pueblo	0	0	0	0	1	2
Rio Blanco	0	0	0	0	0	1
Routt	1	0	1	0	0	3
Miscellaneous	0	0	0	0	0	10
Ttl. Aug.	2	0	2	0	1	34
Ttl. July	2	250	1	0	3	30
Difference	0	250	1	0	2	4

Wyoming

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Big Horn	0	0	0	0	0	4
Carbon	0	0	0	0	2	5
Converse	0	0	0	0	0	9
Fremont	0	0	0	0	0	6
Hot Springs	2	100	1	0	0	4
Lincoln	0	0	0	0	0	2
Natrona	1	168	0	0	0	2
Niobrara	1	360	0	0	1	3
Park	0	0	0	0	0	5
Sublette	0	0	0	0	0	5
Sweetwater	0	0	0	0	0	4
Uinta	0	0	0	0	0	2
Washakie	0	0	0	0	1	1
Weston	4	156	0	0	1	8
Miscellaneous	0	0	0	0	0	3
Ttl. Aug.	8	784	1	0	5	63
Ttl. July	22	4,732	9	3	8	52
Difference	14	3,948	8	3	3	11

Utah

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Summit	1	0	1	0	0	1
Miscellaneous	0	0	0	0	1	3
Ttl. Aug.	1	0	1	0	1	4
Ttl. July	0	0	0	0	1	5
Difference	1	0	1	0	0	1

Montana

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Big Horn	0	0	0	0	1	2
Carbon	0	0	0	0	0	6
Fallon	1	0	0	1	0	1
Fergus	0	0	0	0	0	5
Glacier	5	432	0	0	1	7
Hill	0	0	0	0	0	2
Petroleum	0	0	0	0	0	4
Pondera	0	0	0	0	0	2
Teton	0	0	0	0	0	2
Toole	9	396	1	2	0	13
Yellowstone	0	0	0	0	0	3
Miscellaneous	0	0	0	0	0	11
Ttl. Aug.	15	828	1	3	2	58
Ttl. July	11	716	0	2	3	61
Difference	4	112	1	1	1	3

Nebraska

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Sioux	1	0	1	0	0	1
Miscellaneous	0	0	0	0	3	4
Ttl. Aug.	1	0	1	0	3	5
Ttl. July	0	0	0	0	0	7
Difference	1	0	1	0	3	2

EASTERN KENTUCKY

Summary of Field Operations

County:	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Lee	3	36	0	0	0	3
Powell	1	2	0	0	0	2
Magoffin	1	3	0	0	0	3
Elliott	1	5	0	0	0	1
Johnson	1	6	0	0	0	0
Knott	0	0	0	0	1	1
Lawrence	1	5	0	0	0	0
Martin	7	55	3	0	1	6
Floyd	5	128	1	2	1	4
Pike	2	0	0	2	0	2
Wolfe	0	0	0	0	0	2
Ttl. Aug.	22	240	4	4	3	24
Ttl. July	31	270	1	13	5	32
Difference	9	10	3	9	2	8

WESTERN KENTUCKY

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Breckinridge	0	0	1	0	0	4
Butler	6	103	9	0	0	6
Daviess	12	2,182	6	0	0	27
Grayson	0	0	1	0	0	1
Hancock	0	0	0	1	0	3
Henderson	3	1,050	4	0	0	18
McLean	2	60	2	0	0	7
Muhlenberg	0	0	0	0	0	3
Ohio	11	115	4	2	0	12
Webster	1	0	1	0	0	0
Ttl. Aug.	35	3,510	27	4	0	81
Ttl. July	55	7,713	17	4	2	72
Difference	20	4,203	10	0	2	9

ILLINOIS

Summary of Field Operations

County:	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Bond	2	0	2	0	0	2
Cass	0	0	0	0	0	1
Clay	24	9,803	4	0	0	16
Crawford	0	0	0	0	0	1
Coles	0	0	0	0	0	2
Clark	1	0	1	0	0	3
Clinton	45	3,697	5	0	6	48
Cumberland	0	0	0	0	0	1
Champaign	0	0	0	0	0	1
DeWitt	0	0	0	0	0	1
Edwards	0	0	0	0	0	1
Edgar	0	0	0	0	0	3
Effingham	1	0	1	0	0	1
Fayette	36	5,811	8	0	10	60
Franklin	0	0	0	0	0	3
Gallatin	0	0	0	0	0	1
Jackson	0	0	0	0	1	0
Jasper	1	0	1	0	0	1
Jefferson	5	1,241	2	0	2	9
Lawrence	1	50	0	0	2	6
Massac	0	0	0	0	0	1
Madison	0	0	0	0	0	2
Macon	1	0	1	0	0	0
Marion	46	8,128	12	0	4	64
Macoupin	1	0	1	0	0	2
Menard	0	0	0	0	0	1
McDonough	0	0	0	0	0	4
Montgomery	1	0	1	0	0	3
Morgan	0	0	0	0	0	1
Piatt	0	0	0	0	0	1
Pope	0	0	0	0	0	1
Randolph	0	0	0	0	0	2
Richland	13	3,735	3	0	2	13
Saline	0	0	0	0	0	2
St. Clair	0	0	0	0	0	1
Shelby	1	0	1	0	0	2
Sangamon	1	0	1	0	0	0
Washington	3	0	3	0	3	5
Williamson	0	0	0	0	0	2
Wayne	4	2,449	0	0	2	11
White	0	0	0	0	0	1
Wabash	1	5	0	0	0	2
Ttl. Aug.	188	34,919	47	0	32	282
Ttl. July	143	26,171	27	0	23	195
Difference	45	8,748	20	0	9	87

INDIANA

Summary of Field Operations

County:	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Blackford	0	0	0	0	0	1
Clay	0	0	0	0	0	1
Crawford	0	0	0	0	0	2
Daviess	0	0	0	0	0	3
Decatur	1	0	0	1	0	1
DeKalb	0	0	0	0	0	1
Gibson	0	0	0	0	1	1
Harrison	0	0	0	0	0	2
Huntington	0	0	0	0	0	2
Jasper	0	0	0	0	0	1
Knox	3	0	2	1	0	3
Lagrange	0	0	0	0	0	1
Madison	0	0	0	0	0	1
Martin	0	0	0	0	1	0
Perry	1	5	0	0	0	5
Pike	2	10	0	1	0	3
Porter	0	0	0	0	0	1
Posey	1	150	0	0	0	8
Randolph	0	0	0	0	0	1
Rush	0	0	0	0	0	1
Shelby	2	0	1	1	0	2
Spencer	0	0	0	0	0	2
Sullivan	2	0	1	1	0	6
Vigo	3	180	0	0	0	3
Wabash	0	0	0	0	0	1
Warwick	0	0	0	0	0	1
Ttl. Aug.	15	345	4	5	2	54
Ttl. July	9	50	6	2	3	40
Difference	6	295	2	3	1	14

OHIO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Ashland	1	0	0	1	0	2
Athens	7	0	3	4	7	6
Belmont	1	4	0	0	1	1
Coshocton	1	0	1	0	1	2
Cuyahoga	0	0	0	0	0	4
Delaware	0	0	0	0	0	1
Fairfield	0	0	0	0	0	2
Gallia	0	0	0	0	0	2
Guernsey	6	5	1	4	1	5
Harrison	1	0	1	0	0	0
Hocking	0	0	0	0	0	1
Holmes	1	0	1	0	0	1
Huron	1	0	0	1	0	2
Knox	6	25	1	4	2	8
Lawrence	1	0	0	1	0	0
Licking	15	404	2	3	7	7
Lorain	5	0	1	4	1	0
Medina	5	29	1	1	1	1
Meigs	5	0	2	3	3	3
Monroe	2	0	1	1	0	3
Morgan	2	0	1	1	2	4
Muskingum	1	9	0	0	0	1
Noble	3	0	0	3	1	7
Perry	6	16	0	2	1	4
Richland	0	0	0	0	0	2
Scioto	0	0	0	0	0	1
Stark	0	0	0	0	3	6
Summit	2	0	0	2	0	1
Trumbull	0	0	0	0	0	1
Tuscarawas	3	0	1	2	1	4
Vinton	1	0	1	0	0	1
Washington	14	5	5	7	4	13
Wayne	1	0	0	1	0	0
Ttl. Aug.	91	497	23	45	37	96
Ttl. July	70	444	26	28	37	103
Difference	21	53	3	17	0	7

LIMA FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Hancock	0	0	0	0	0	1
Putnam	0	0	0	0	0	2
Sandusky	0	0	0	0	0	1
Seneca	2	0	1	1	2	6
Wood	0	0	0	0	0	1
Ttl. Aug.	2	0	1	1	2	11
Ttl. July	1	0	1	0	0	11
Difference	1	0	0	1	2	0

EASTERN FIELDS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Bradford	*115	117	0	0	14	50
Allegany	*43	30	0	0	8	31
N.Y.-Pa. Gas	9	0	8	1	8	11
Middle dist.	11	9	0	2	2	16
Butler-Armstrong	8	17	2	0	5	7
SW. Pa.	14	84	5	6	6	31
SE. Ohio	38	775	8	7	11	41
W. Virginia	64	100	9	42	28	129
Ttl. Aug.	302	1,132	32	58	82	316
Ttl. July	265	580	28	42	57	298
Difference	37	552	4	16	25	18

*Includes water intake wells for repressuring.

MICHIGAN

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Adams	0	0	0	0	0	2
Bentley	1	65	0	0	0	6
Bloomingdale	1	1,337	0	0	0	5
Buckeye	7	954	0	2	0	5
Clayton	0	0	0	0	0	2
Crystal	0	0	0	0	0	1
Dorr	5	204	4	0	0	3
Edenville	3	882	0	0	0	4
Edmore	1	0	0	1	0	1
Freeman	1	893	0	0	1	11
Fremont	1	0	1	0	0	0
Monterey	2	65	1	0	0	3
Newark	0	0	0	0	0	1
Overisel	23	10,310	4	0	4	12
Salem	0	0	0	0	1	2
Sherman	0	0	0	0	0	3
Stewart	1	594	0	0	6	2
Trowbridge	1	45	0	0	2	6
West Branch	1	25	0	0	5	5
Winegars	0	0	0	0	0	2
Wise	0	0	0	0	1	2
28-16n-13w	1	126	0	0	0	0
Wildcats	27	0	27	0	3	52
Ttl. Aug.	76	15,500	37	3	23	124
Ttl. July	87	7,827	41	1	20	128
Difference	11	7,673	4	2	3	4

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status
Shell Oil, No. 1-28 Covarrubias, Capitan, S. Barbara	32- 5-30	1,675	flow 565 b.d.
Shell Oil, No. 1-29 Covarrubias, Capitan, S. Barbara	32- 5-30	1,066	sd. sh. drlg.
Barnsdall Oil, No. 19 Bell, Elwood, Santa Barbara	15- 4-29	5,690	flow 30 b.d.
Hancock-Bush, No. 3 Bradley, S. Maria, S. Barbara	26-10-34	3,990	sd. sh. drlg.
Union Oil, No. 4 Vicente, Santa Maria, Santa Barbara	21-10-34	4,208	sd. sh. drlg.
Union Oil, No. 2 Security, Santa Maria, Santa Barbara	22-10-34	1,984	sd. sh. drlg.
O'Donnell, J. E., No. 1 Helen, Lompoc, Santa Barbara	8- 7-33	4,060	sd. sh. drlg.
Barnsdall Oil, No. 5 Magenheimer, Gato Ridge, S. B.	9- 8-32	3,035	idle
Barnsdall Oil, No. 1 Tezzoni, Gato Ridge, S. Barbara	15- 8-32	1,641	sd. sh. drlg.
Petrol Corp., No. 511 Magenheimer, Gato Ridge, S. B.	9- 8-32	4,551	br. sh. drlg.
Oceanic Oil, No. 1 Santa Barbara Mesa, S. Barbara	28- 4-27	3,678	cmtd. 2,501
High Mesa Oil, No. 1 Butcher, Ojai, Ventura	16- 4-22	1,691	cleaning out
Holly Dev., No. 1 Macrate, Ojai, Ventura	27- 4-23	4,786	may resume
Ventura Drlg., No. 1, Ojai, Ventura	10- 3-23	350	fish. tools
Texas Co., No. 5 Yale, South Mountain, Ventura	13- 3-21	6,540	hd. sh. drlg.
Merchants Pet., No. 1, Sespe, Ventura	1- 4-20	926	O. S. drlg.
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	570	hd. sh. drlg.
Section 20 Oil, No. 1, Sespe, Ventura	20- 5-19	2,150	sd. sh. drlg.
McKinnis, C. R., No. 1, Hopper Canyon, Ventura	14- 4-19	820	sd. sh. drlg.
Texas Co., No. 135 Shiells, Shiells Canyon, Ventura	4- 3-19	2,152	sd. sh. drlg.
Continental Oil, No. 9 Grubb, San Miguelito, Ventura	24- 3-24	5,850	O. S. drlg.
Ridge Oil, No. 1 Fox, Padre Canyon, Ventura	9- 3-24	3,796	sd. sh. drlg.
C. C. M. Oil, No. 7 Oakgrove, Padre Canyon, Ventura	23- 3-24	5,295	gr. sd. drlg.
Richfield Oil, No. 5-F State, Rincon, Ventura	17- 3-24	3,756	sd. sh. drlg.
Tide Water A., No. 75 Lloyd, Ventura Ave., Ventura	26- 3-23	6,995	flow 285 b.d.
Tide Water A., No. 111 Lloyd, Ventura Ave., Ventura	27- 3-23	9,880	sd. sh. drlg.
Tide Water A., No. 126 Lloyd, Ventura Ave., Ventura	23- 3-23	968	sd. sh. drlg.
Tide Water A., No. 127 Lloyd, Ventura Ave., Ventura	27- 3-23	8,980	sd. sh. drlg.
Tide Water A., No. 134 Lloyd, Ventura Ave., Ventura	27- 3-23	8,378	P. B. 8,295
Tide Water A., No. 7 Hartman, Ventura Ave., Ventura	22- 3-23	7,750	sd. sh. drlg.
Tide Water A., No. 11 McGonigle, Ventura Ave., Ven.	23- 3-23	9,450	hd. sd. drlg.
Shell Oil, No. 96 Taylor, Ventura Ave., Ventura	28- 3-23	7,390	redrlg. 6,391
Shell Oil, No. 30 Edison, Ventura Ave., Ventura	20- 3-23	6,850	sd. sh. drlg.
Shell Oil, No. 31 Edison, Ventura Ave., Ventura	20- 3-23	8,447	O. S. drlg.
General Pet., No. 18 Barnard, Ventura Ave., Ventura	21- 3-23	8,410	flow 1,984 b.d
Lloyd Corp., No. 2 Dabney-Lloyd, Ventura Ave., Ven.	23- 3-23	5,060	sd. sh. drlg.
Gibson Oil, No. 3 Alferitz, Devils Den, Kern	14-25-18	1,067	hd. sd. drlg.
Cal. Lands, Inc., No. 1 Occidental, Lost Hills, Kern	24-26-20	3,398	sd. sh. drlg.
Belridge Oil, No. 27-13, North Belridge, Kern	27-27-20	5,984	cmtd. 5,956
Belridge Oil, No. 27-19, North Belridge, Kern	27-27-20	4,574	sd. sh. drlg.
Belridge Oil, No. 27-31, North Belridge, Kern	27-27-20	3,750	sd. sh. drlg.
Tide Water A., No. 22-3, North Belridge, Kern	22-27-20	5,941	sd. sh. drlg.
Tide Water A., No. 22, North Belridge, Kern	21-27-20	3,260	sd. sh. drlg.
Texas Co., No. 4 Martin, North Belridge, Kern	22-27-20	8,513	flow 3,850 b.d.
B & S Drlg., No. 1 Newberry, Round Mountain, Kern	32-28-28	2,254	gr. sd. drlg.
Honolulu Oil, No. 58, Round Mountain, Kern	20-28-29	2,132	well P. B.
Kern Oil, No. 25-3-C, Kern Front, Kern	25-28-27	1,965	cleaning out
Helm & Smith, No. 7-A Kernco, Kern River, Kern	34-28-28	485	sd. sh. drlg.
Cal. Star Oil, No. 5-80, Kern River, Kern	22-28-27	2,660	pump 120 b.d.
Trico O. & G., No. 1 Villard, Mount Poso, Kern	17-26-28	1,398	sd. sh. drlg.
Master Pet., No. 1 U.S., Mount Poso, Kern	34-26-28	1,162	idle
Ring Oil, No. 7 Bowles, Mount Poso, Kern	29-26-28	1,740	rig to pump
Ring Oil, No. 3 Rogers-Jones, Mount Poso, Kern	29-26-28	1,691	rig to pump
Richfield Oil, No. 1, Union Avenue, Kern	5-30-28	5,090	sd. sh. drlg.
Western Gulf Oil, No. 4 Price, Fruitvale, Kern	22-29-27	3,750	sd. sh. drlg.
Meridian Oil, No. 5 fee, Fruitvale, Kern	23-29-27	3,108	pump 50 b.d.
Texas Co., No. 1 Lowe, Fruitvale, Kern	7-29-27	9,780	hd. sd. drlg.
Greer, P. H., No. 2 Perrel, Mountain View, Kern	9-31-29	6,638	redrlg. 6,310
Renner, G. E., No. 2 R. H. L., Sivert, Kern	27-30-30	214	sd. sh. drlg.
Continental Oil, No. 3-A, KCL, Wasco, Kern	8-27-24	12,951	sd. sh. drlg.
Continental Oil, No. 1, KCL, Seaboard, Wasco, Kern	26-27-24	12,778	redrlg. 11,450
Standard Oil, No. 8-1-B, KCL, Wasco, Kern	17-27-24	12,170	sd. sh. drlg.
Standard Oil, No. 1 Mushrush, Wasco, Kern	7-27-24	11,330	sd. sh. drlg.
Cal. Lands, Inc., No. 1 Salisbury, Buttonwillow, Kern	7-29-24	1,310	sd. sh. drlg.
Superior Oil, No. 2 Ruhl, Rio Bravo, Kern	1-29-25	7,793	sd. sh. drlg.
Superior Oil, No. 1 Helbling, Rio Bravo, Kern	1-29-25	14,018	sd. sh. drlg.
Union Oil, No. 2-34, KCL, Rio Bravo, Kern	34-28-25	11,204	redrlg. 9,997
Union Oil, No. 5-34, KCL, Rio Bravo, Kern	34-28-25	9,840	sd. sh. drlg.
Getty Oil, No. 3 Ramsey, Rio Bravo, Kern	35-28-25	2,672	sd. sh. drlg.
General Pet., No. 4 Wagoner, Rio Bravo, Kern	35-28-25	10,560	sd. sh. drlg.
General Pet., No. 4 Van Ness, Rio Bravo, Kern	2-29-25	2,682	sd. sh. drlg.
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	11,400	sd. sh. drlg.
Superior Oil, No. 1 Krause, Greeley, Kern	21-29-26	9,693	sd. sh. drlg.
Continental Oil, No. 2-B, KCL, Rosedale, Kern	12-29-26	9,000	sd. sh. drlg.
Shell Oil, No. 67-30-4, KCL, Ten Section, Kern	30-30-26	7,899	sd. sh. drlg.
Shell Oil, No. 83-25-A, KCL, Ten Section, Kern	25-30-25	1,998	sd sh. drlg.
Shell Oil, No. 72-31-B, KCL, Ten Section, Kern	31-30-26	8,200	flow 1,801 b.d.
Shell Oil, No. 47-20-B, KCL, Ten Section, Kern	20-30-26	5,780	sd. sh. drlg.
Shell Oil, No. 67-20-B, KCL, Ten Section, Kern	20-30-26	8,374	P. B. 8,204
Shell Oil, No. 45-14-A, KCL, Canal, Kern	14-30-25	8,261	O. S. drlg.
Ohio Oil, No. 8-E, KCL, Canal, Kern	14-30-25	7,862	sd. sh. drlg.
Standard Oil, No. 1 Rio Bravo fee, Canal, Kern	12-30-25	6,271	sd. sh. drlg.
Richfield Oil, No. 1, KCL, Tupman, Kern	32-30-25	7,540	sd. sh. drlg.
Ohio Oil, No. 1-F, KCL, Coles Levee, Kern	10-31-25	5,015	sd. sh. drlg.
Ohio Oil, No. 8-A, KCL, Buena Vista Lake, Kern	32-31-26	11,186	P. B. 10,044
Gibson Oil, No. 3 Blanck, Midway-Sunset, Kern	6-11-23	255	idle
Mascot Oil, No. 3 Midway, Midway-Sunset, Kern	36-32-23	1,650	pump 10 b.d.
Lilly Oil, No. 3 Lilly, Midway-Sunset, Kern	36-32-23	552	sd. sh. drlg.
Magnuson, C. A., No. 1 Midway, Midway-Sunset, Kern	19-31-23	3,696	gr. sd. drlg.
Big Ten Oil, No. 12 Midway, Midway-Sunset, Kern	36-32-23	1,265	rig to pump
Richfield Oil, No. 1, KCL, Wheeler Ridge, Kern	28-11-20	6,306	sd. sh. drlg.
Petrol Corp., No. 33-5 Reserve, Tejon Ranch, Kern	33-11-19	4,607	will deepen
Pure Oil, No. 1, SPL, Huron, Fresno	31-18-17	12,020	hd. sh. drlg.
Magnet Oil, No. 2 Fearon, Fresno	18-19-15	4,040	sd. sh. drlg.
Tide Water A., No. 1-F, North Coalinga, Fresno	1-19-15	3,564	sd. sh. drlg.
Jacalitos Oil, No. 1, Jacalitos Hills, Fresno	14-21-15	7,137	D. P. froze
Pet. Sec., No. 7-7-F, Guijarral Hills, Fresno	18-20-16	6,750	O. S. drlg.
Pet. Sec., No. 88-12-C Grimes, Guijarral Hills, Fresno	12-20-15	6,786	O. S. drlg.
Goetz, F., Co., No. 1, Guijarral Hills, Fresno	10-20-15	5,851	redrlg. 5,770
Standard Oil, No. 82-13 fee, Guijarral Hills, Fresno	13-20-15	6,003	sd. sh. drlg.
Texas Co., No. 19 Mohawk, Guijarral Hills, Fresno	12-20-15	4,424	P. B. 4,224
Universal Consd. Oil, No. 1, Guijarral Hills, Fresno	12-20-15	7,450	gr. sh. drlg.
Tide Water A., No. 66 Guard'n, Guijarral Hills, Fresno	12-20-15	5,798	hd. sd. drlg.
Superior Oil, No. 1 Hight, Guijarral Hills, Fresno	8-20-15	7,792	sd. sh. drlg.
Dauphin Dev., No. 2 Boone, Alcalde, Fresno	30-21-14	1,590	sd. sh. drlg.
Superior Oil, No. 4-H, Kettleman North, Fresno	29-21-17	8,600	redrlg. 4,990
K.N.D.A., No. 38-6-Q, Kettleman North, Kings	6-22-18	7,750	gr. sd. drlg.
K.N.D.A., No. 27-8-Q, Kettleman North, Kings	6-22-18	7,670	hd. sd. drlg.
K.N.D.A., No. 58-8-Q, Kettleman North, Kings	8-22-18	7,881	hd. sd. drlg.
K.N.D.A., No. 27-16-Q, Kettleman North, Kings	16-22-18	8,442	flow 3,635 b.d.
K.N.D.A., No. 38-16-Q, Kettleman North, Kings	16-22-18	6,845	hd. sd. drlg.
K.N.D.A., No. 43-20-Q, Kettleman North, Kings	20-22-18	8,914	recmtd. 8,430
K.N.D.A., No. 27-22-Q, Kettleman North, Kings	22-22-18	8,491	sd. sh. drlg.
Standard Oil, No. 21-13-P, Kettleman North, Kings	13-22-17	7,676	sd. sh. drlg.
Standard Oil, No. 74-7-Q, Kettleman North, Kings	7-22-18	8,985	recmtd. 8,445
Standard Oil, No. 41-17-Q, Kettleman North, Kings	17-22-18	5,580	sd. sh. drlg.
Standard Oil, No. 61-21-Q, Kettleman North, Kings	21-22-18	7,296	sd. sh. drlg.
Irving, A. R., No. 1 Bisconer, Dudley Ridge, Kings	11-24-20	2,242	sd. sh. drlg.
Caminol Co., No. 3 Allensworth, Tulare	29-24-24	8,340	br. sh. drlg.
Crusaders Oil, No. 1 Muller, Ducor, Tulare	1-24-27	1,331	idle
Texas Co., No. 1 Lewis, King City, Monterey	13-19-5	2,803	br. sh. drlg.
Lee, H. E., No. 1 Defiance, Elkhorn, San Luis Obispo	7-32-22	220	gr. sd. drlg.
Grande Oil, No. 1 Edna, San Luis Obispo	28-31-13	702	sd. sh. drlg.
Vanguard Oil, No. 1 Creston, San Luis Obispo	26-27-14	4,998	idle
Hancock Oil, No. 1 Dick, Huasna, San Luis Obispo	30-12-33	5,080	fish swab
Amerada Pet, No. 1 California Lands, Colusa, Colusa	34-16-1	6,480	cmtd. 6,475
Richfield Oil, No. 1, Potrero Hills, Solano	10- 4-1	4,096	sd. sh. drlg.
Orestimba Oil, No. 1 S. N., Newman, Stanislaus	12- 7-7	140	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status
Sovereign Oil, No. 2 Community, El Segundo, L. A.	12- 3-15	7,331	won't flow
Sovereign Oil, No. 1 Coppinger, El Segundo, L. A.	12- 3-15	7,300	cmtd. 7,070
Rolling Hills Oil, No. 1 Weston, Palos Verdes, L. A.	27- 4-14	5,100	O. S. drlg.
Allison & Oglesby, No. 1 Gerner, Torrance, L. Angeles	23- 4-14	5,166	sd. sh. drlg.
Berseid & Clark, No. 1 Basin, Torrance, Los Angeles	23- 4-14	3,783	will deepen

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shut off O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Blue Bell Pet., No. 1 Simons, Torrance, Los Angeles	23-	4-14	5,271	P. B. 4,880
Coastal Counties Oil, No. 6, Torrance, Los Angeles	23-	4-14	3,599	sd. sh. drlg.
Caldale Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,980	rig to pump
Collier, P. V., No. 1 Smith, Torrance, Los Angeles	23-	4-14	3,605	rigging up
Consolidated Pet., No. 3, Torrance, Los Angeles	23-	4-14	4,941	sd. sh. drlg.
Cal. Star Oil, No. 1 Whitacre, Torrance, Los Angeles	23-	4-14	5,030	sd. sh. drlg.
Douglas, A., No. 1 Beaudette, Torrance, Los Angeles	22-	4-14	3,980	sd. sh. drlg.
Dunphy, S. R., No. 1 Lomita, Torrance, Los Angeles	23-	4-14	5,002	pump 170 b.d.
Del Amo Oil, No. 1 Denbo, Torrance, Los Angeles	23-	4-14	4,786	sd. sh. drlg.
Elexico Oil, No. 3 Airey, Torrance, Los Angeles	22-	4-14	4,904	O. S. drlg.
Eriksson, G., No. 3 Fortuna, Torrance, Los Angeles	23-	4-14	4,980	rig to pump
Fiat Oil, No. 1 Seeple, Torrance, Los Angeles	23-	4-14	4,923	rig to pump
Freeman Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,893	flow 250 b.d.
Goetz, R. L., No. 1 Monica, Torrance, Los Angeles	23-	4-14	4,840	sd. sh. drlg.
H. D. Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	3,807	rigged up
Jewel Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,963	pump 95 b.d.
Jones-Long Oil, No. 2, Torrance, Los Angeles	23-	4-14	4,966	sd. sh. drlg.
Kenber Oil, No. 1 Berken, Torrance, Los Angeles	23-	4-14	5,015	sd. sh. drlg.
Kerben Oil, No. 2 Empire, Torrance, Los Angeles	23-	4-14	2,584	sd. sh. drlg.
Kovell Oil, No. 2 Lomita, Torrance, Los Angeles	23-	4-14	4,965	flow 310 b.d.
Kovell Oil, No. 3 Lomita, Torrance, Los Angeles	22-	4-14	4,040	sd. sh. drlg.
Kovell Oil, No. 4 Lomita, Torrance, Los Angeles	23-	4-14	2,991	sd. sh. drlg.
Louisiana Oil, No. 1 Lord, Torrance, Los Angeles	22-	4-14	3,800	will deepen
Mildon Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,853	sd. sh. drlg.
Maldum Oil, No. 1 R. K., Torrance, Los Angeles	23-	4-14	5,129	sd. sh. drlg.
Medill, John, No. 4 Frenger, Torrance, Los Angeles	23-	4-14	3,595	rigging up
McDonald & Burns, No. 10 Moore, Torrance, L. Ang.	22-	4-14	5,005	flow 270 b.d.
McCaslin, W. E., No. 2, Torrance, Los Angeles	14-	4-14	4,993	cleaning out
McWherter, C. L., No. 1 Lomita, Torrance, L. Angeles	23-	4-14	4,930	sd. sh. drlg.
M. P. S. Oil, No. 1 Julian, Torrance, Los Angeles	23-	4-14	4,999	pump 180 b.d.
Moon Oil, No. 2 Julian, Torrance, Los Angeles	23-	4-14	3,787	rigged up
O'Donnell, J. L., No. 42 Lomita, Torrance, L. Angeles	23-	4-14	4,988	pump 115 b.d.
Oil Dev., No. 1 Dunphy, Torrance, Los Angeles	23-	4-14	4,934	sd. sh. drlg.
Pennsylvania Oil, No. 1 Lomita, Torrance, L. Angeles	23-	4-14	4,961	P. B. 4,920
Pacific West. Oil, No. 4 Marble, Torrance, L. Angeles	15-	4-14	4,097	sd. sh. drlg.
Pacific West. Oil, No. 7 Marble, Torrance, L. Angeles	15-	4-14	3,800	will deepen
Pettijohn, J. E., No. 1 Lomita, Torrance, Los Angeles	22-	4-14	3,957	sd. sh. drlg.
Packard Pet., No. 4 Kelley, Torrance, Los Angeles	23-	4-14	4,960	flow 350 b.d.
Packard Pet., No. 5 Kelley, Torrance, Los Angeles	22-	4-14	4,770	sd. sh. drlg.
Standard Oil, No. 1-14 Marble, Torrance, Los Angeles	22-	4-14	2,286	sd. sh. drlg.
Standard Oil, No. 2-7 Marble, Torrance, Los Angeles	22-	4-14	4,129	sd. sh. drlg.
Star Pet., No. 1 Patton, Torrance, Los Angeles	23-	4-14	5,200	sd. sh. drlg.
Sonwell Oil, No. 4, Torrance, Los Angeles	23-	4-14	4,962	rig to pump
Silver Strand Oil, No. 2, Torrance, Los Angeles	22-	4-14	4,770	sd. sh. drlg.
Sunny State Oil, No. 1 Bailes, Torrance, Los Angeles	23-	4-14	3,996	sd. sh. drlg.
Ter Heun Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,640	sd. sh. drlg.
Texas Co., No. 11 Wilson, Torrance, Los Angeles	14-	4-14	5,026	P. B. 4,980
Imperial Gypsum, No. 1 Pot., Torrance, Los Angeles	14-	4-14	3,747	dry; abd.
C. C. M. O., No. 8, Torrance, Los Angeles	15-	4-14	4,961	sd. sh. drlg.
C. C. M. O., No. 16, Torrance, Los Angeles	14-	4-14	5,000	flow 210 b.d.
Calif. Star Oil, No. 1 Lermens, Harbor City, L. Ang.	25-	4-14	5,283	flow 730 b.d.
Isco Pet., No. 1 Block, Harbor City, Los Angeles	25-	4-14	5,313	flow 240 b.d.
General Pet., No. 9 Poggi, Harbor City, Los Angeles	30-	4-13	5,426	P. B. 5,280
O'Donnell, J. L., No. 43, Harbor City, Los Angeles	25-	4-14	3,194	sd. sh. drlg.
D & B Oil, No. 2 Dawn, Harbor City, Los Angeles	25-	4-14	4,680	sd. sh. drlg.
Bush Oil, No. 1 Gimenez, Harbor City, Los Angeles	25-	4-14	5,260	O. S. drlg.
Silverado Oil, No. 1, Harbor City, Los Angeles	25-	4-14	3,174	sd. sh. drlg.
Texas Co., No. 1 Oakley, Harbor City, Los Angeles	30-	4-13	3,090	sd. sh. drlg.
Union Oil, No. 61 Callender, Dominguez, Los Angeles	32-	3-13	7,170	sd. sh. drlg.
Union Oil, No. 62 Callender, Dominguez, Los Angeles	33-	3-13	5,109	flow 425 b.d.
Shell Oil, No. 95 Reyes, Dominguez, Los Angeles	33-	3-13	9,180	P. B. 9,110
Shell Oil, No. 96 Reyes, Dominguez, Los Angeles	33-	3-13	2,050	sd. sh. drlg.
Stabler, W., No. 2 Marland, Dominguez, Los Angeles	3-	4-13	4,421	cmtd. 4,363
Selbar Oil, No. 1 Richfield, Dominguez, Los Angeles	3-	4-13	4,248	will redrl.
Fairfield, F. E., No. 1 Abel, Rosecrans, Los Angeles	19-	3-13	3,297	sd. sh. drlg.
Exeter Oil, No. 4 Higgins, Rosecrans, Los Angeles	20-	3-13	7,080	sd. sh. drlg.
Bankline Oil, No. 1 Kirby, Rosecrans, Los Angeles	20-	3-13	5,692	sd. sh. drlg.
Barnsdall Oil, No. 6 Trust, Rosecrans, Los Angeles	18-	3-13	4,459	sd. sh. drlg.
Union Oil, No. 24 Rosecrans, Rosecrans, Los Angeles	19-	3-13	7,655	sd. sh. drlg.
Union Oil, No. 25 Rosecrans, Rosecrans, Los Angeles	19-	3-13	5,860	sd. sh. drlg.
Union Oil, No. 26 Rosecrans, Rosecrans, Los Angeles	19-	3-13	1,000	sd. sh. drlg.
Universal Consd., No. 5 Trust, Rosecrans, L. Angeles	18-	3-13	7,090	sd. sh. drlg.
Republic Pet., No. 1 Trust, Rosecrans, Los Angeles	18-	3-13	6,141	redrlg. 1,997
Superior Oil, No. 10 Maxwell, Rosecrans, Los Angeles	20-	3-13	6,994	sd. sh. drlg.
H. O. B. Oil, No. 1 Stevens, Rosecrans, Los Angeles	20-	3-13	6,033	redrlg. 4,784
Tide Water A., No. 1 Porter, San Fernando, L. Angeles	27-	3-16	3,830	sd. sh. drlg.
Royal Lands Corp., No. 1 Ramona, Castaic, L. Angeles	8-	4-17	1,098	cleaning out
General Pet., No. 1 Flint, Wilmington, Los Angeles	33-	4-13	3,500	to deepen
General Pet., No. 19 Harbor, Wilmington, L. Angeles	2-	5-13	1,561	sd. sh. drlg.
General Pet., No. 41 Harbor, Wilmington, L. Angeles	2-	5-13	2,660	sd. sh. drlg.
General Pet., No. 1 P. E., Wilmington, Los Angeles	2-	5-13	4,100	O. S. drlg.
Allied Pet., No. 22, Wilmington, Los Angeles	35-	4-13	4,346	P. B. 4,030
Bankline Oil, No. 11-U.P., Wilmington, Los Angeles	2-	5-13	2,681	sd. sh. drlg.
Hollywood Oil, No. 3 Baxter, Wilmington, L. Angeles	35-	4-13	3,112	sd. sh. drlg.
Hughes, Walter, No. 1 Harbor, Wilmington, L. Ang.	33-	4-13	5,680	flow 245 b.d.
O'Kane & Brain, No. 3 L.B.H.D., Wilmington, L. Ang.	2-	5-13	2,957	sd. sh. drlg.
Ind. Drlg., No. 1 Vosper, Wilmington, Los Angeles	2-	5-13	2,557	sd. sh. drlg.
Macson Oil, No. 55-4-C, Wilmington, Los Angeles	32-	4-13	3,070	flow 570 b.d.
Richfield Oil, No. 10-P.D., Wilmington, Los Angeles	2-	5-13	3,665	sd. sh. drlg.
Richfield Oil, No. 27-P.D., Wilmington, Los Angeles	2-	5-13	2,631	sd. sh. drlg.
Richfield Oil, No. 1-G, Wilmington, Los Angeles	35-	4-13	3,042	sd. sh. drlg.
Richfield Oil, No. 1-R.O., Wilmington, Los Angeles	2-	5-13	3,080	pump 151 b.d.
Royalty Service, No. 7-A, Wilmington, Los Angeles	33-	4-13	5,620	sd. sh. drlg.
Superior Oil, No. 1 School, Wilmington, Los Angeles	2-	5-13	3,030	sd. sh. drlg.
Superior Oil, No. 2 School, Wilmington, Los Angeles	2-	5-13	3,880	flow 795 b.d.
So. Cal. Pet., No. 1-W, Wilmington, Los Angeles	33-	4-13	4,701	sd. sh. drlg.
Union Pacific, No. 82, Wilmington, Los Angeles	4-	5-13	2,775	sd. sh. drlg.
Union Pacific, No. 90, Wilmington, Los Angeles	3-	5-13	2,615	sd. sh. drlg.
Union Pacific, No. 91, Wilmington, Los Angeles	4-	5-13	2,000	sd. sh. drlg.
St. Helens Pet., No. 28 Monterey, Montebello, L. Ang.	2-	2-12	6,190	hd. sd. drlg.
St. Helens Pet., No. 29 Monterey, Montebello, L. Ang.	2-	2-12	4,320	hd. sd. drlg.
St. Helens Pet., No. 2 Taylor, Montebello, L. Angeles	2-	2-12	1,746	sd. sh. drlg.
Union Oil, No. 2 Wilcox, Montebello, Los Angeles	2-	2-12	6,254	flow 610 b.d.
Union Oil, No. 3 Howard & Smith, Montebello, L. A.	2-	2-12	4,629	sd. sh. drlg.
V-8 Oil, No. 1 Estelle, Montebello, Los Angeles	2-	2-12	6,275	repair rig
Mon. Wesco, Inc., No. 1 Seavers, Montebello, L. Ang.	2-	2-12	5,218	sd. sh. drlg.
Pongratz Pet., No. 1 Martin, Montebello, Los Angeles	2-	2-12	2,147	sd. sh. drlg.
Standard Oil, No. 3 Harvey, Montebello, Los Angeles	2-	2-12	4,698	sd. sh. drlg.
Standard Oil, No. 3 Braun, Montebello, Los Angeles	2-	2-12	4,280	sd. sh. drlg.
Standard Oil, No. 1 Kaufman, Montebello, L. Angeles	2-	2-12	2,994	sd. sh. drlg.
Mont. Res. Oil, No. 1 M.L.&W., Montebello, L. Angeles	2-	2-12	3,751	sd. sh. drlg.
Herley-Kelly, Inc., No. 1 Masser, Montebello, L. Ang.	2-	2-12	5,220	sd. sh. drlg.
Security L. & W., No. 1 Tobey, Whittier, Los Angeles	8-	2-11	2,176	hd. sh. drlg.
Hilldon Oil, No. 4-B-P, North Long Beach, L. Angeles	13-	4-13	4,386	sd. sh. drlg.
Texas Co., No. 2-3 Foster, Long Beach, Los Angeles	19-	4-12	5,000	cleaning out
De Soto Oil, No. 1, Long Beach, Los Angeles	30-	4-12	7,251	fish D. P.
Texas Co., No. 3 Alamitos, Seal Beach, Orange	3-	5-12	5,225	pump off
Brea Canyon Oil, No. 48, Brea Canyon, Orange	2-	3-10	5,064	wet; abd.
Battersby, J. M., No. 1 Carmenita, Orange	21-	3-11	8,300	hd. sh. drlg.
D. H. B. Oil, No. 1, Buena Park, Orange	34-	3-11	2,542	sd. sh. drlg.
Severns Drlg., No. 1-A McNally, West Coyote, Orange	24-	3-11	5,617	pump 135 b.d.
Standard Oil, No. 3 Bastanchury, W. Coyote, Orange	16-	3-10	5,622	sd. sh. drlg.
Shell Oil, No. 1 Kiker, Richfield, Orange	21-	3-9	1,925	sd. sh. drlg.
A. V. Oil, No. 1, Costa Mesa, Orange	16-	6-10	4,660	tested wet
So. Counties Oil, No. 1 Serrano, San Bernardino	22-	2-8	972	sd. sh. drlg.
Dauphin Dev., No. 1 Irwin, Ponto, San Diego	16-	12-4	266	sd. sh. drlg.

OKLAHOMA

Week Ending September 10

NORTHERN OKLAHOMA

Beckham County

Wagner & Stogner No. 1 McGee, NE NE SE sec. 25-8-22w. O.W.D.D.; T.D. 1,029 ft.; S.G.; S.D.

Coal County

Carter et al No. 1 Mote, C E½ SW NW Sec. 19-2-10. Drlg. 6,295 ft.

Comanche County

E. N. Eldridge No. 1 Aetna Life, SW SE SW Sec. 2-1-10w. T.D. 960 ft.; to D.D.

Midnite O. & G. Co. No. 1 Howe, NW NW NW Sec. 20-2n-13w. T.D. 550 ft.; S.D.

Clyde Roach No. 1-A Green, SE SE SW Sec. 2-1-13w. T.D. 765 ft.; S.D.

Garfield County

Champlin Ref. Co. No. 1 Boehm, SW SW NE Sec. 4-24-8w. Viola 6,595 ft.; dolo. 6,625 ft.; T.D. 6,650 ft.; rng. csg. W.O.C.

I.T.I.O. No. 1 Kechin, C SE SE sec. 17-22-5w. Miss. 6,113 ft.; drlg. 6,144 ft.

Garvin County

H. R. Hollenbach et al No. 1 Butterly, NE NE SE sec. 22-1n-1e. 3,218,000 ft. gas; drlg. 3,205 ft.; S.D.; repairs.

Grady County

Carter Oil Co. et al No. 1 Smith C-58, C SE SW Sec. 26-5-8w. M.I.M.

Hughes County

City of Holdenville No. 1 Fairgrounds, SE SE SE Sec. 13-7-8. S.D. at 1,200 ft.

Homer Doup et al No. 1 Bond, NE NE SW Sec. 7-7-9. Drlg. 1,915 ft.

Phillips Pet. Co. No. 1 Beeker, NE NW SW Sec. 8-5-10. T.D. 6,283 ft.; P.B. 5,603 ft.; drlg. pig. at 5,626 ft.

Kay County

Louis Blosser No. 1 Rudolph, NE NE SW Sec. 27-29-1w. T.D. 3,500 ft.; W. O.S.T.

Kingfisher County

Hollenbach & Haley No. 1 Zerger, C SE SW Sec. 5-18-6w. T.D. 2,512 ft.; S.D. for water.

Kiowa County

Anderson-Prichard Oil Corp. No. 1 Sch Ld., SE SE SE Sec. 14-6n-17w. T.D. 2,151 ft.; bailing S.W.

R. L. Emerson No. 1 Handcock, SE SE NE Sec. 26-6-15w. Drlg. 205 ft.

Hughes & Reese No. 1 Fultz, SE SE SE Sec. 10-6-18w. T.D. 1,238 ft.; W.O.C.

Lincoln County

British-American No. 1 Markwell, C E½ E½ NE Sec. 26-12-4. Viola 5,346 ft.; dolo. 5,377 ft.; 1st Wilcox 5,414 ft.; 2nd 5,478 ft.; cg. at 5,490 ft.

Indian States No. 1 Bailey, NW NW NE Sec. 2-12-5. T.D. 4,238 ft.; flwd. 18 B. O. in 24 hrs.; swb. 79 B.O. in 4 hrs.; comp.

Noble County

H. R. Hollenback No. 1 Mathews, C SW NW Sec. 9-20-1. Drlg. 4,797 ft.

Okfuskee County

Amerada No. 1 Conard, NE NW SW sec. 33-10-10. T.D. 4,068 ft.; D.&A.

C. W. Titus No. 1 Lehmar, C NE NE Sec. 26-11-8. Deepened to 3,485 ft.; pmpd. 105 B.O. and 10 B.W. in 24 hrs. comp.

Oklahoma County

Olson Oil No. 1 L. Vaneck, SE SW NW Sec. 4-12-3w. T.D. 6,776 ft.; P.B. 6,766 ft.; F. 8 B.O.P.H.; shot and f. 394 B.O. in 24 hrs.; S.I.

Pittsburg County

Burk-Greis No. 1 Goodman, NE NE SW Sec. 20-14-7. T.D. 3,025 ft.; S.D.

Supreme Oil Corp. No. 1 Hickey, NW SW NW sec. 4-2-15. T.D. 1,040 ft.; S.D

Supreme Oil Corp. No. 1 Stevenson, SW SW SE Sec. 27-3-14. T.D. 1,300 ft.; S.D.

Pontotoc County

Jack Lynch et al No. 1-A Parker, SW SW SE sec. 17-4-8. T.D. 4,572 ft.; P.B. 4,490 ft.; rip in csg.; P.B. 4,090 ft.; S.D.

H. Z. Moore No. 1 Payne, SE NW SE Sec. 16-4-4. T.D. 997 ft.; S.S.O.; S.D.

Union Dev. Co. No. 1-A Abbott, SW NW NE sec. 34-3-6. T.D. 2,013 ft.; S.D.

Pottawatomie County

Hall & Briscoe No. 1 Merkle, NW NW SE Sec. 32-8-5. Drlg. 1,357 ft.

Geo. L. Pace No. 1 Riley, NE NE SE Sec. 2-9-3. Drlg. 3,877 ft.

A. D. Spears No. 1 Vinson, SW NW SW Sec. 29-8-5. Drlg. 4,205 ft.

Seminole County

Boetcher O. & G. No. 1 Morgan, SE NE NW Sec. 8-5n-7. Drlg. 2,420 ft.

Patterson No. 1 Konawa City Park, NW SE NE Sec. 19-6-8. Drlg. 1,860 ft.

Rogers & Rogers No. 1 Robinson, SW SW SE Sec. 36-8-7. Drlg. 1,300 ft.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. Drlg. 4,481 ft.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,172 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

C. M. Sheldon and Gardner Pet. Co. No. 1 Lee, NE NW SW sec. 2-4s-10e. Arb. 2,843 ft.; S.D. 3,455 ft.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. Set 8-in. at 920 ft.; to deepen.

Love County

Sinclair Prairie Oil Co. No. 1 Peabody NE cor. Sec. 35-6s-2w. T.D. 6,970 ft.; ran Schlum. and S.O. at 6,955-70 ft.

Tillman County

Smith No. 2 Hammel, NE NW NW sec. 6-5s-15w. T.D. 2,380 ft.; fsg. D.P.

KANSAS

Week Ending September 10 (Descriptions are East unless marked otherwise)

Barber County

Pryor & Lockhart No. 1 Gant "C," NE Sec. 5-31-13w. T.D. 4,611 ft.; P. 201 B.O. 1st 4 hrs.; 233 B.O. 2nd 4 hrs.; pot. 1,211 B.O.; comp.

Barton County

C. L. Carlock and Atlantic Ref. Co. No. 1 Demel, NE NW Sec. 30-17-13w. Drlg. 1,245 ft.

Long & Johnson No. 1 Eveleigh, SW SW NE Sec. 3-18-14w. Drlg. 330 ft.

Butler County

Pryor & Lockhart No. 1 Lietzke, NE SW NW Sec. 24-28-7. Drlg. 2,500 ft.

Fred Phillips No. 1 Hanshaw, NE NE SE Sec. 32-27-3. Drlg. 1,030 ft.

Soloman & Alexander No. 1 Sawyer, SW NW SW Sec. 2-28-7. Fsg. 175 ft.

Cowley County

Barnsdall Oil Co. No. 1 Elliott, NE cor. Sec. 5-31-5. Drlg. 1,420 ft.

Ben Gralapp et al No. 1-A Clark, NW NW NE Sec. 11-31-3e. Drlg. 1,919 ft.

McKnab et al No. 1 O'Neil, NW NW SE Sec. 27-32-3. S.S.O. 2,768 ft.; drlg. 2,977 ft.

Ford County

Sinclair Prairie Oil Co. No. 1 Young, CSL NE sec. 34-27-21w. Viola 5,350 ft.; dolomite at 5,512 ft.; Wilcox 5,617 ft.; Arb. 5,629 ft.; T.D. 5,930 ft.; P.B. 5,025 ft.; flwd. 56 B.F. in 8 hrs.; S.I.

Graham County

Duwe & Farris and Atlantic Ref. Co. No. 1 Parker, C SE SW Sec. 29-6s-23w. Drlg. 2,368 ft.

Greenwood County

Z. Dunalp et al No. 1 Warren, NW NW SW Sec. 4-28-10. T.D. 1,575 ft.; S.D.

Fullerton et al No. 1 Bates, NE SW SE Sec. 32-26-11. Spd. and S.D.

Ward McGinnis No. 3 Smith, NW NE NE Sec. 10-24-13. Pay 1,662-65 ft.; est. 15 B.O.P.D.

Harvey County

Lanahan Drlg. No. 1 Lagree, SE SE Sec. 4-23-3w. W.O.C. 280 ft.

Kingman County

Bunte Bros. No. 1 Shepard, SE SE SE Sec. 10-27-10w. T.D. 4,529 ft.; P.B. 4,086 ft.; swbg. 4 B.O.P.H.

McPherson County

Marylyn Oil No. 1 Dixon, NW NE NW Sec. 7-19-2w. U.R. at 2,350 ft.

Marion County

Johnson et al No. 1-A Miltz SW SW SW Sec. 24-17-4. T.D. 2,075 ft.; S.D.

Harwood Oil Co. No. 1 Kaufman, NW NW SE Sec. 27-17-4. Fsg. 2,090 ft.

Mead County

Cragin, Reeuscher & Turner No. 1 Adams, NW NW SE sec. 22-34-30w. T.D. 200 ft.; R.U.R.

Pacific Midwest Oil No. 1 Rexford, NE SE SW Sec. 8-30-29w. S.D. 1,350 ft.

Ness County

Sinclair-Prairie No. 1 McKinley "A," SW NW Sec. 26-18-26w. S.S.O. at 4,440 ft.; cd. 4,468-78 ft.; no shows; T.D. 4,709 ft.; D.&A.

Norton County

Power Oil and Olson Oil No. 1 Noel, CEL NE Sec. 12-4-21w. Drlg. 2,313 ft.

Ottawa County

Babcock Oil No. 1 Copeman, NW NW Sec. 18-10-2w. Drlg. 2,330 ft.

Pratt County

Champlin Ref. Co. No. 1 Elliott, SW NE Sec. 26-27-14w. Drlg. 3,960 ft.

Reno County

A. Scherzer No. 1 Krey, SE SW Sec. 19-23-10w. M.I.M.

Rice County

Watchorn O. & G. Co. No. 1 Caldwell, NE SE NE Sec. 29-20-9w. Drlg. 3,180 ft.

Rooks County

Fred Haines et al No. 1 Dorr, SE SE SW Sec. 13-9s-16w. Drlg. 3,573 ft.

Producers Oil No. 1 Ham, SW NW sec 25-7-19w. S.D. 1,800 ft.

Russell County

Stearns No. 1 Stielow, NW cor. sec. 32 11-14w. T.D. 3,552 ft.; H.F.W.

Saline County

Sullivan & Sidwell No. 1 Erickson, NE NE Sec. 28-16-3w. S.D. 1,800 ft.

Sedgwick County

Frank Hudson et al No. 1 Fulton, NE SE Sec. 35-28-1e. S.D. 2,355 ft.

Stafford County

Atlantic Ref. Co. No. 1 Wise, NW cor. Sec. 13-24-14w. T.D. 3,822 ft.; F. 103 B.O. in 48 hrs.; 3,000,000 ft. gas; to D.D.

Newbold & Springrose No. 1 Walker, NE NE SW Sec. 24-24-12w. T.D. 4,101 ft.; D.&A.

Stanolind O. & G. Co. No. 1 Curtis, SE cor. Sec. 31-21-12w. Viola 3,544 ft.; Arb. 3,638 ft.; R.U.S.T. 3,640 ft.

Sumner County

Cameron & Spencer No. 1 Frey, NW cor. Sec. 5-30-1e. S.D. 90 ft.

Hapenney No. 1 Evers, SE SE Sec. 27-31-2. O.W.D.D.; old T.D. 2,030 ft.; drlg. 2,130 ft.

Thomas County

Ramsey Pet. Co. and John Mabee No. 1 Ryan, C NE SE Sec. 27-8-32w. Drlg. 2,110 ft.

Wabaunsee County

Fowler & Tague et al No. 1 Aye, NW SW NW Sec. 10-12-8. S.D. 145 ft.

Woodson County

Fleming et al No. 1 Central Life, SW SW SW Sec. 27-24-15. Drlg. 505 ft.

Joe Nathan No. 1 Ellis, NW NW SE Sec. 35-25-14. T.D. 1,552 ft.; S.D.

Lion Oil Ref. Co. No. 1 Powledge, SE cor., Lot 2, SW Sec. 7-18-17. R.U.

Lion Oil Ref. Co. No. 1 H. P. Sewell NE cor. Lot 4, NW Sec. 18-18-17. Top Jones sd. 7,539 ft.; 7-in. csg. 7,715 ft.; T.D. 7,725 ft.

Marine Oil Co. No. 2 J. H. Calloway, NW cor. E½ SE NE sec. 13-18-18. Set 16-in. csg. 142 ft.; T.D. 6,348 ft.; P.B. 6,133 ft. and set whipstock 6,130 ft.; drlg. sdtrkd. hole 6,151 ft.

Phillips Pet. Co. No. 1-B Bryan, NW cor. NE SE Sec. 13-18-18. Drlg. 3,501 ft.

Phillips Pet. Co. No. 1 El Dorado Bnk., SW cor. NW SE Sec. 12-18-18. Drlg. 1,730 ft.

Phillips Pet. Co. No. 2 Gan, NE cor. SE NE Sec. 18-18-17. Drlg. rd.&gr. sh. 5,722 ft.

Phillips Pet. Co. No. 1 Milling, SE cor. S½ Lot 4, SW Sec. 18-18-17. R.U.; W.O.

Phillips Pet. Co. No. 2 Sewell, Lot 3, SW Sec. 7-18-17. Drlg. rd.&gr. sh. 5,534 ft.

Phillips Pet. Co. No. 3 Sewell, Lot 5, SW Sec. 7-18-17. Drlg. rd.&gr. sh. 5,461 ft.

Phillips Pet. Co. No. 4 Sewell, Lot 4, SW Sec. 7-18-17. Drlg. rd.&gr. sh. 5,972 ft.

Roberts & Murphy No. 2 Leona, NW cor. Lot 6, SW Sec. 7-18-17. Drlg. rd. sdy. sh. 7,334 ft.

Union County—Other

J. R. Lockhart No. 1 Raulston, sec. 12-17-14. Cd. oil sd. 3,160-75 ft.; D.S.T. 3,172-75 ft.; rec. drlg. fluid and S.W.; cd. 3,175-85 ft.; S.O.; salty taste; set 7-in. csg. 3,077 ft.; perf. 3,002-07 ft.; tstd. 2,750 ft. S.W.; reperf. 2,967-73 ft.; blew wild; est. 500 bbls. S.W.; P.B. 2,700 ft.; drld. out cmt. 2,980 ft.; perf. 2,968-76 ft.; set pkr. 2,960 ft.; tstd. 1,500,000 ft. gas; connecting up separator 2,980 ft.

J. R. Lockhart No. 2 Raulston, NE cor. SE Sec. 12-17-14. Fsg. drill collar 2,291 ft.

MISSISSIPPI

Calhoun County

S. & O. Properties, Inc., No. 1 G. C. Cooned, SE NE sec. 12-24n-8e. T.D. 2,300 ft., rd. bds.; S.D.

George County

Cleve Love et al No. 2 J. J. Newman Lbr. Co., C SW Sec. 9-1s-8w. Drlg. out bl. sh. 5,400 ft.

Harrison County

Big Ridge Oil Co. No. 1 Hingin, sec. 13-7s-10w. S.D. 2,700 ft.

Hinds County

G. Jefferies No. 1 Gaddis Farms, Inc., 700 ft. W line, 545 ft. N line, SE¼ Sec. 26-7n-4w. S.D.; Wilcox 3,448 ft.

Cleve Love et al No. 1 S. F. Johnson, NE cor. SE¼ sec. 29-6n-1w. Set 7-in. csg. 3,355 ft.; T.D. 3,707 ft.; R.U. to resume drlg.

Southern Nat. Gas Co. No. 1 Progressive Realty Co., SE SW Sec. 35-6n-4w. M.I. larger rig to D.D.

Simpson County

Goodwill O. & G. Co. No. 1 Berry, sec. 33-2n-4e. S.D. 2,810 ft.

Cleve Love No. 1 N. E. Garner, SE cor. SW NE Sec. 1-10n-17w. T.D. 27 ft.; prep. resume drlg.

Yalobusha County

Acme Holding Co. No. 1 S. D. Boyle, NW NW Sec. 33-25n-7e. Drlg. Tuscaloosa formation 2,400 ft.

FLORIDA

Nassau County

St. Mary River Oil Corp. No. 1 Hillard Turpentine Co., Sec. 19-4n-24e. Set 6⅝-in. csg. 3,935 ft.; drlg. 4,575 ft.

Lake County

Union O. & R. Co. No. 1 Gulf Expln., sec. 17-24s-25e. S.D. 235 ft.

ARKANSAS

Calhoun County

Samuel S. Alexander No. 1 Smythe, C NE NE Sec. 7-11-14. S.D.; boiler rep.; 13 ft.

C. E. Murdock No. 1 Southern Kraft Corp., SE cor. NW NW sec 17-14-19. Cd. 2,336-48 ft., sdy. sh.; drlg. limy sh. 2,368 ft.

Columbia County

Atlantic Ref. Co. No. 1 Baker, C SE NW Sec. 13-17-20. Top Tr. Pk. 4,138 ft.; T.C.U. 5,363 ft.; top Buckner 7,548 ft.; top Big L. 7,706 ft.; cd. to 7,728 ft.; no S.O. or G.; S.D.

Atlantic Ref. Co. No. 1 Baker-Garrett, C SE NE Sec. 14-17-20. T.A.

Atlantic Ref. Co. No. 1 Harrington, C SW NW Sec. 14-17-20. Top Buckner 7,580 ft.; top Big L. 7,706 ft.; top oolitic L. 7,712 ft.; no shows; S.D.

Pet. Finance Co. No. 1 Baker, C SW NW Sec. 13-17-20. Top Buckner 7,560 ft.; top L. 7,710 ft.; top oolitic L. 7,719 ft.; no S.O. or G.; D.&A. 7,775 ft.

Standard Oil Co. of La. No. 1 T. Crumpler, sec. 15-17-19. Cg. 7,447 ft.; top por. oolitic L. 7,380 ft.; flwd. 34 B.P.H. fluid; ¾-in. ck.; 33% S.W.; C.P. 1,100 lbs.; T.P. 730 lbs.; killed well and set cmt. retainer 7,395 ft. and sqzd.; T.D. 7,500 ft.; sqzd. at 7,395 ft.; drld. out to 7,409 ft. and perf.; flwd. 50 to 65 B.P.H. fluid, 50 to 95% S. W.; killed; tstd.; cmt. retainer did not hold; rng. retainer and milling; fsg. out jars; T.D. L. 7,500 ft.

Standard Oil Co. of La. No. 2 J. L. Warren, Sec. 18-16-22. Drlg. sh. 5,410 ft.

Tide Water Seaboard No. 1 Beene, C SE NW Sec. 15-18-19. R.U.

G. H. Vaughn No. 1 Garrett, C NE SE Sec. 14-17-20. Top Big L. 7,492 ft.; porous L. 7,511-28 ft. and 7,540-52 ft.; D.S.T. 7,534-52 ft.; rec. 1,350 ft. oil 11 min.; W.P. 44 lbs.

Craighead County

Tannark, Inc., No. 1 Ruby M. Martin, 580 ft. N line, 80 ft. E line, sec. 35-14n-3e. M.I.C.T. 1,754 ft.

Crittendon County

Stanley Oil Corp. No. 1 Danner hrs., O.W.W.O.; old T.D. 2,790 ft.; rng. 4-in. csg. to set on bttm.; will use 1 ft. perf. csg. 3,219-3,176 ft.; T.D. 3,351 ft.; rng. 4-in. csg.

Little River County

Barbee et al No. 1 Ada Mills, SE cor. SW NW Sec. 18-12-29. R.U.

Clark et al No. 1 Strawn, SW cor. SE Sec. 20-10-32. 10-in. csg. 63 ft.

M. E. Sanderson No. 1 Pinny; O.W.W.O.; reported abd. 1,300 ft.; NE cor. NE SW sec. 6-13-30. S.D. 1,324 ft.

Joe G. Straham et al No. 2 Dierks Lbr. Co. Top L. 2,425 ft.; S.D. 3,354 ft.

Lonoke County

J. F. Russell No. 1 J. T. Gunter, SE cor. Sec. 17-5-10. Drlg. 1,218 ft.

Miller County—Rodessa

Chamblee & Pitts No. 1 H. C. Mitchell, 330 ft. SE cor. E½ SW SE Sec. 2-20-5. T.D. 1,025 ft.; 8⅝-in. csg. 911 ft.

Gerhig No. 2 Mitchell, SW SE Sec. 2-21-28. 5½-in. csg. 6,189 ft.; perf. 6,159-89 ft.; T.D. 6,194 ft.; T.P. 450 lbs.; C.P. 900 lbs.; comp.; 420 B.P.D.; 20/64-in. ck.

Gerhig Co. No. 3 Mitchell, SW cor. SW SE Sec. 2-20-28. R.U.

Red River Valley Oil Co. No. 1 Beck, Sec. 34-15-26. T.D. 3,008 ft.; reperf. 2,786-2,808 ft.; reset pkr. 2,954 ft.; swbg. to test 3,008 ft.

Nevada County

Paul D. Bowlen No. 1 Stocks, C NW SE Sec. 9-15s-22w. Nac. sd. 1,178-1,211 ft.; cd. sd. showed sat.; T.D. 3,654 ft.; P.B. 1,300 ft.; perf. 1,197-1,203 ft.; bailed 25 B.P.D. oil; W.O.S.R.

Pulaski County

Coker Oil Corp. No. 1 Stone, sec. 36-3n-11w. S.D. 905 ft.

A. L. Kitselman No. 2 A. L. Kitselman, Jr., SE SE SW Sec. 2-1s-13e. S.D. 3,388 ft.

Union County—Schuler

Atlantic Ref. Co. No. 2 Dumas, SE cor. NE NW Sec. 21-18-17. Drlg. rd.&gr. sh. 5,998 ft.

Crescent Drlg. Co. No. 1 Lewis, SE SW Sec. 16-18-17. Top Jones sd. 7,571 ft.; T.D. 7,637 ft.; 5½-in. csg. 7,637 ft.

Crescent Drlg. Co. No. 1 Sewell, SW cor. NE NE Sec. 12-18-18. Set 13⅜-in. csg. 116 ft.; drlg. rd. sh. 4,133 ft.

Delta Drlg. Co. No. 1 Powledge, SW cor. NW NW Sec. 21-18-17. R.U.

E. M. Jones No. 1 Gallagher, Lot 4, NW SW Sec. 18-18-17. O.W.W.O.; old T.D. 5,929 ft.; cd. top Jones sd. 7,583 ft.; cg. 7,614 ft.

E. M. Jones No. 1-B Murphy Ld. Co., Sec. 13-18-18. O.W.W.O.; old T.D. 5,987 ft.; drlg. rd.&gr. sh. 6,170 ft.

Lion Oil Ref. Co. No. 2 Clarence, Lot 1, SW Sec. 7-18-17. Drlg. rd.&gr. sh. 6,675 ft.

Lion Oil Ref. Co. No. 2 Dee, SW cor. SE NW Sec. 17-18-17. Drlg. rd.&gr. sh. 6,602 ft.

Lion Oil Ref. No. 4 Marine, NE cor. SE SE Sec. 17-18-17. Drlg. rd.&gr. sh. 4,955 ft.

Lion Oil Ref. Co. No. 5 Marine, SE cor. NE SE Sec. 17-18-17. 10¾-in. 1,913 ft.; W.O.C.

Lion Oil Ref. Co. No. 2 Marvin, SE cor. Lot 1, SW Sec. 7-18-17. Cd. top Jones sd. 7,608 ft.; comp.; 26 B.P.H.; 12/64-in. ck.; T.P. 875 lbs.; C.P. 1,150 lbs.; T.D. 7,700 ft.

Lion Oil Ref. No. 6-A Morgan, SE cor. Lot 1, SW Sec. 18-18-17. (Cor.); drlg. rd.&gr. sh. 6,305 ft.

Lion Oil Ref. Co. No. 1 Natl., NW cor NE SW Sec. 17-18-17. Top Jones sd. 7,544 ft.; T.D. 7,630 ft.; set 7-in. csg. 7,620 ft.; perf. 7,560-80 ft.; washed; would not flow; swbd. est. 15 B.P.H., 50% S.W.; set ret. 7,550 ft. and recmtd.; W.O.C.

Lion Oil Ref. Co. No. 2 Nelson, Lot 5, Sec. 18-18-17. Top Jones sd. 7,552 ft.; T.D. 7,700 ft.; 7-in. csg. 7,961 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 Fleming, C NW NW Sec. 18-16-9. Rmg. 5,400 ft.

Producers O. & G. Co. No. 1 Graves & Thomas, SE cor. SW SE Sec. 23-15-10. R.U.

Bossier Parish

W. M. Chambers No. 1 Thomas, SE cor. Sec. 10-22-11. S.D. 635 ft.

C. H. French No. 1 Weaver, sec. 14-19-11. W.O.C. 377 ft.

Premier Inv. Co. No. 2 Buckelew, SE NE Sec. 16-19-11. 6⅝-in. csg. 377 ft.

Premier Inv. Co. No. 1 Community Corp., sec. 22-19-11. S.D. 310 ft.

Premier Inv. Co. No. 1 McDade, SE SW NE sec. 28-19-11. Tstd. est. 1,000,000 ft. gas; S.I.; T.D. 2,374 ft.; top oolitic L. 2,345 ft.; set 5½-in. csg. 2,300 ft without cmt.; set 7-in. csg. 2,026 ft. without cmt.; tstd. est. 1,000,000 ft. gas, S.S.O.; W.O.S.R. 2,384 ft.

J. B. Stovall et al No. 2 Ark. Fuel Oil Co. fee, NE SE Sec. 15-19-11. Set 6-in. 168 ft.; W.O.S.R. 372 ft.

J. B. Stovall et al No. 3 Ark. Fuel Oil Co. fee, NE SE Sec. 15-19-11. 6-in. csg. 362 ft.; W.O.C.

Triangle Drlg. Co. No. 1-A R. O. Roy, SW cor. NW Sec. 18-17-11. Tstd. S.W. S.S.O. 3,125 ft.; P.B. 3,093 ft. and perf. 3,080-85 ft.; recmtd. csg.; T.D. 3,093 ft.; old T.D. 3,148 ft.; drld. out cmt. 3,121 ft.; perf. 3,080-85 ft.; comp. 300 B.P.D.; ⅜-in. ck.; T.P. 90 lbs.; C.P. 0 lbs.; used 2,500 gal. acd.

Triangle Drlg. Co. No. 2 Roy, C NW SW Sec. 18-17-11. R.U.

Caddo Parish

R. E. Allison No. 2 Ellerbee, 708 ft. E line, 1,992 ft. N line, Sec. 28-18-14. Drlg. sh. 2,250 ft.

J. W. Bailey No. 2 Caddo Lvy. Bd., SE cor. Sec. 36-21-16. R.U.

F. W. Burford No. 2 Brown, C SE SE Sec. 5-23-15. Drlg. L.&sh. 4,215 ft.

R. L. Bauman No. 1 Slattery Est., 660 ft. NW cor. Sec. 35-18-14. Set 13⅜-in. csg. 300 ft.; drlg. 1,800 ft.

J. E. Carroll et al No. 1 Stiles, SW cor. NE Sec. 17-21-16. Set 6-in. csg. 1,481 ft.; W.O.C.

Carney et al No. 1 Hart; O.W.W.O. Old T.D. 2,372 ft.; repair rig.

S. H. Cassidy No. 1 Caddo Lvc. Bd. Tstd. S.W. 1,661 ft.

W. D. Chew No. 5 Stiles, SW cor. Sec. 27-21-16. 6-in. csg. 1,027 ft.; tstd. S. W. 1,029 ft.

W. D. Chew No. 6 Stiles, SW NE Sec. 28-21-16. R.U.

Paul Cooper et al No. 1 Stiles, SE cor. NE NW Sec. 33-21-16. T.D. 1,712 ft.; acdz. with 3,000 gal.

L. L. Davidson No. 3 Muslow, NE SE Sec. 26-21-16. Drlg. sh. 1,920 ft.

Tony DeGrazier No. 1 Welsh, NE cor. Sec. 3-20-16. 7-in. csg. 925 ft.; tstd. dry; S.O.&S.W.; W.O.; T.D. 968 ft.

Falcon Oil Co. No. 2 Glassell-Youree, SE cor. Sec. 26-20-15. Tstd. dry; S.O.&S. W.; will acdz.; T.D. 2,306 ft.

M. M. Ferrell No. 1 Dyer. Sec. 10-20-16. To set csg. 962 ft.

C. G. Gibbons No. 1 Helpman, SW cor. Sec. 16-21-16. 8-in. 990 ft.; tstg. 1,000 ft.

Gulf Oil Corp. No. 9 Chew, SW NE Sec. 33-21-16. Drlg. ch. rk. 1,230 ft.

J. T. Humphrey No. 2 Caddo Lve. Bd. Sec. 26-21-16. Tstg. 1,011 ft.

McClanahan et al No. 1 Muslow, NE NW sec. 31-21-15. Set 10¾-in. csg. 40 ft.; S.D.

E. W. McGoldrick No. 9 Muslow, SW cor. Sec. 32-21-15. Tstg. 1,567 ft.

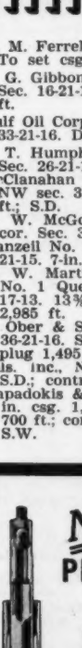
Manzell No. 1 Ramsey, SE cor. Sec. 32-21-15. 7-in. 1,382 ft.; W.O.S.R. 1,565 ft.

F. W. Martin and Superior Oil Corp No. 1 Querbes, Sec. 8, Reg. Sec. 20-17-13. 13⅜-in. csg. 214 ft.; drlg. sh. 2,985 ft.

J. Ober & Sons No. 1 fee, SE cor. sec 36-21-16. Set 8-in. csg. 1,431 ft.; drlg. plug 1,495 ft.

Oils, Inc., No. 1 Cazaux, sec. 10-16-13 S.D.; contract depth, 3,500 ft.

Papadokis & Poppas No. 1 Spell. Set 7-in. csg. 1,395 ft.; tstd. S.W.&S.O. 1-700 ft.; comp.; pmp. 15 B.O. and much S.W.



New MAC
PLUNGER BARREL
for 2-inch tubing

Outlasts three ordinary barrels, as Steel Plunger works in and out of Cast Iron Barrel as much as 2 feet on the up and down stroke and more if desired, thus flushing itself free of sand or gypsum.

Reversible Valve Body and Plunger make for lowest upkeep.

Furnished with 2-Cup Standing Valve and with, or without, Garbutt Rod.

Save, with the New "MAC"!

Ask for complete details and price list.

McGREGOR
WORKING BARREL COMPANY
Bradford, Pa., U.S.A.

J. E. Sedberry No. 1-A Dickinson, SW cor. sec. 10-19-14. Drlg. 2,410 ft.
Southern Star Pet. Corp. No. 1 Muslow, SE NW sec. 17-20-15. O.W.W.O.; old T.D. 1,500 ft.; set 8-in. csg. 1,350 ft.; T.D. 1,860 ft.; W.O.S.R.
Southern Star Pet. Corp. No. 2 Muslow NE cor. SE NW Sec. 17-20-15. Setting csg. 2,196 ft.

Caldwell Parish

E. T. Oakes et al No. 1 Kyles, NE cor. SW NE Sec. 18-11-3e. Set 12-in. csg. 467 ft.

Catahoula Parish

Sibley Sabine Oil Co. No. 1 Peck, S½ Sec. 36-10-8e. S.D. sd.&sh. 1,550 ft.

Claiborne Parish

Harry Fotiades No. 1 T. H. Lloyd, C SE SE Sec. 10-20-5. Sat. L. 5,317-31 ft.; 5½-in. csg. 5,307 ft.; drlg. plug.
Harry Fotiades No. 2 Rogers, C SW NW Sec. 13-20-5. Sat. L. 5,319-22 ft. and 5,325-33 ft.; set 5½-in. csg. 5,311 ft.; T.D. 5,339 ft.; comp.; 1,296 B.P.D.; 15/64-in. ck.; T.P. 200 lbs.; used 3,000 gal. acd.
J. H. Henry No. 1 McDonald, NE cor SE Sec. 3-20-5. 5½-in. csg. 5,342 ft.; perf. csg. 5,296-5,322 ft.; tstd. sh.; S.O.; W.O.; T.D. 5,354 ft.
Magnolia Pet. Co. No. 4 Sallie Lloyd, SE cor. Sec. 2-20-5. Sat. L. 5,384 ft.; 7-in. csg. 5,383 ft.; cg. 5,385 ft.
Oakes et al No. 1 Kilgore, NE cor. Sec. 28-21-15. D.S.T. 4,188-4,225 ft.; tstd. dry in 5 min.; set 5¾-in. csg. 5,290 ft.; T.D. 5,313 ft.; set perf. lnr.; tstd. dry; washed with oil and acdz. with 2,000 gal. and 150 bbls. oil; swb dry; think csg. seat gave away; recmt. csg.; cor. depth 5,270 ft.; cor. T.D. 5,357 ft.; D.&A.
H. O. Olson No. 1 L. L. Lowery. R.U. S.D.
Rodessa O. & R. Co. No. 2 Lloyd, C NE SW Sec. 10-20-5. Drlg. anhy.&L. 4,226 ft.
Sklar Oil Corp. No. 1 Lowery, C SW SW Sec. 14-20-5. W.O. 5,340 ft.
Union Prod. Co. No. 1 Hodges, Sec. 6-19-15. Setting 5¾-in. csg. 5,700 ft.

Concordia Parish

Benedum & McCormick No. 1 Allen, 330 ft. NE cor. Sec. 35-5n-8e. Drlg. 100 ft.
Edw. Addy et al No. 1 Posternack, NW SW Sec. 49-8n-9e. Arng. D.S.T. 1,382 ft.
Morrison & Co. No. 1 Winston, sec. 4[illegible] 7-9e. Top Wilcox 4,120 ft.; cd. S.W. sd.; W.O. 4,200 ft.

De Soto Parish

S. S. Alexander No. 1-A Stoll, sec. 5-12-16. S.D. 1,872 ft.
G. H. Collins et al No. 2 Joiner, sec. 2[illegible] 11-12. Tstd. S.W. 3,001 ft.; P.B. 2,978 ft. and tstd. S.W.; W.O.
Paul Miller et al No. 2 Jal Drlg. Co., NE Sec. 5-11-11. S.D.; contract depth 4,000 ft.
Petroleum Heat & Power Co. No. 2 Kavanaugh, NE cor. NW SW sec. 7-11-11. Tstd. dry 2,874 ft.; W.O.
Pet. Heat & Power Co. No. 1 Rives, sec. 20-12-11. S.D. 3,620 ft.
A. L. Sutton No. 1 Frost Lbr. Co., C NE SE Sec. 35-11-15. R.U. and S.D.

Grant Parish

C. R. Bowers No. 1 Harrison Est., sec. 21-8-5. S.D. sh. 1,951 ft.
Luther Terrill et al No. 1 Barnett, C SW SW Sec. 19-9-1e. Partly R.U. and S.D.

La Salle Parish

O. L. Black No. 1 Tullas. Set 6-in. csg. 1,493 ft.; T.D. 1,495 ft.

Madison Parish

Continental Oil Co. No. 1 Singer Mfg Co., C NE NW Sec. 3-15-11e. Ch. rk. 650-2,227 ft.; igneous 2,227-2,508 ft.; drlg. sh. 3,816 ft.

Natchitoches Parish

Jos. E. Popkins No. 1 Peavy Lbr. Co., sec. 36-7n-9w. S.D. 510 ft.

Red River Parish

J. F. Lent No. 1 Chicago Coal & Ld. Co., SE cor. Sec. 17-13-11. S.D. 1,495 ft.
J. C. Prine No. 2 Haynes, SW cor. Sec. 20-13-10. Set 10-in. csg. 85 ft.; 8¼-in. 1,128 ft.; W.O.S.R. 1,398 ft.
H. D. Rogers No. 1 Raney, SW cor. Sec. 20-13-9. Drlg. sh. 932 ft.

Sabine Parish

Addison & Peterson No. 1 Dew, SE cor. SW SE Sec. 22-8-11. Setting csg. 2,366 ft.
A. B. House No. 1 Sabine. NW NW Sec. 23-7-14. 12½-in. csg. 119 ft.
Hunter Co. No. 7 Bowman-Hicks, C NW NW Sec. 13-7-13. 6-in. csg. 2,121 ft.
LeGrande & Brown No. 1 Tatum, NE cor. NW NE Sec. 17-8-13. Setting 7-in. csg. 1,850 ft.
W. L. McClanahan No. 1 Frost Lbr. Co., sec. 22-9-13. D.S.T. 2,927-3,028 ft.; tstd. est. 1,000,000 ft. gas and 9 jts. mud; ¼-in. ck.; blew out 4,745 ft.; S.W., mud and gas; cd. hd. sh.&L. 4,745-54 ft.; tstd. S.O. and used 3,000 gal. acd.; reacd. with 3,000 gal. 1,616 ft.; W.O. S.R.
Major Oil Co. No. 1 Loring, C SE NW Sec. 21-7-13. Top clk. 2,265 ft.; arng. acd. with 8,000 gal.; 8-in. csg. at 2,272 ft.; T.D. 2,331 ft.; tstd. S.O. 2,331 ft.; W.O.
Manitzia et al No. 1 Hale, SE cor. NE SE Sec. 1-7-13. 10-in. csg. 98 ft.
North American Oil Consolidated Co. No. 3 E. L. Stewart, C SE SE Sec. 29-21-10. R.U.
H. L. Nutting No. 1 4-L Co., C NE NW Sec. 24-7-11. 6-in. 2,665 ft.; T.D. 2,831 ft.
Geo. L. Pace No. 3 Logan Oil Co., SW NW Sec. 26-10-13. 10-in. 98 ft.; drlg. sh. 1,465 ft.
W. L. Posey No. 2 Hale, SE cor. NE NW Sec. 12-7-13. Csg. leaking; will set 4-in. csg.; T.D. 2,577 ft.
Richards & Holloway No. 1 Bowman Hicks, Sec. 11-7-13. Tstd. dry 2,404 ft.; acdzd. with 5,000 gal.; tstd. dry; T.D. 2,548 ft.
Richards & Holloway No. 1 Hale, C NE NE Sec. 12-7-13. Set 5½-in. csg. 2,078 ft.; drlg. ch. rk. 2,483 ft.
Richards & Holloway No. 1 Long Bell, C NW NE Sec. 15-7-13. 10-in. 95 ft.; 5½-in. 2,130 ft.
Richards & Holloway No. 1 Sabine Lbr. Co., NE NW Sec. 7-7-12. O.W.W.O.; arng. acd. 2,710 ft.
C. R. Schuster No. 1 Mary Garcia, NE cor. NW SE Sec. 15-7-13. T.D. 2,603 ft. P.B. 2,585 ft.; tstd. dry S.D.; W.O. 2,585 ft.
H. M. Sneed No. 1 Leone, 330 ft. S line, 400 ft. W line, NW SE sec. 8-7-13. R.U.
Tropical Oil Co. No. 1 Long Bell Lbr. Co., Sec. 5-8-13. T.D. 2,178 ft.; S.D.; W.O.
Zwolle Synd. No. 1 Mansfield Lbr. Co. Sec. 8-7-19. T.D. 4,323 ft.; 5-in. csg. 3,830 ft.; drlg. plug 4,323 ft.

Webster Parish

Hunt Oil Co. No. 8 Babb, sec. 13-21-10. Top Bodcaw sd. 8,255 ft.; drlg. sdy. sh.&L. 8,963 ft.
Hunt Oil Co. No. 3 Bodcaw-Stewart, C NW SW Sec. 34-21-10. Holloway sd. 5,822-46 ft.; 9⅝-in. csg. 5,951 ft.; perf. 5,815-50 ft.; tstd. S.O.&G.; C.P. 500 lbs.; T.P. 0 lbs.; reperf. 5,815-50 ft.; tstd. 3,700 ft. O.I.H. and used 500 gal.; tstg. 5,956 ft.
Hunt Oil Co. No. 2 Davis Unit, C NW NW Sec. 24-21-10. Drlg. sh.&L. 3,914 ft.
Hunt Oil Co. No. 20 Hope, C NE NW sec. 24-21-10. Top Holloway sd. 5,596-5,604 ft.; set 9⅝-in. csg. 5,580 ft.; did not test Holloway sd. top Bodcaw sd. 8,165 ft.; top Davis sd. 8,479 ft.; cutting stk. D.S. 6,057 ft.
Hunt Oil Co. No. 21 Hope, C NE SW Sec. 13-21-10. Holloway sd. 5,768-89 ft.; 9⅝-in. csg. 5,751 ft.; T.D. 5,871 ft.
Hunt Oil Co. No. 1 Pardee, sec. 24-21-10. Set 13⅜-in. csg. 797 ft.; drlg. hd. sdy. sh. 7,630 ft.
Hunt Oil Co. No. 1 Sandifer, C NE NE Sec. 4-20-10. No Holloway sd. yet; set 9⅝-in. csg. 5,730 ft.; drlg. sh. 6,561 ft.
Magnolia Pet. Co. No. 1 Merritt Unit, C SW NW Sec. 14-21-10. Hole clean and drlg. sh. 3,750 ft.
Magnolia Pet. Co. No. 1-C Pardee, C NW NE Sec. 17-23-11. Rmd. and set 9⅝-in. csg. 5,920 ft. T.D. 6,025 ft.; tstd. dry 6,025 ft.; treated with 5,000 gal. acd. and tstd. S.S.O.&S.W.; mudded up hole; retstd. small S.O. after raising tbg.; cd. 6,025-28 ft.; rec. 1 jt. showed stain and odor oil; cg. ahead.
Midstates Oil Corp. No. 1 Welori Lbr. Co. Unit, NE cor. NW sec. 3-20-10 Drlg. L.&sh. 5,520 ft.
Harry Morgan No. 2-A Hope, C SE SW Sec. 24-21-10. Drlg. sh. 7,560 ft.
North American Oil Consol. Co. No. 1 Barrow, C NE NW sec. 21-21-10. Top Trv. Pk. 5,889 ft.; set 9⅝-in. 5,945 ft.; no Holloway sd.; D sd. 8,555-73 ft.; csg. 8,665 ft.; T.D. 8,725 ft.; tstd. est. 30 bbls. fluid per hr. on ¼-in. ck.; T.P. 500 lbs.; C.P. 900 lbs.; est. 750,000 ft. gas per day; est. 3 to 6% S. W.; P.B. 8,685 ft. and comp; 27 B.P. H.; ½-in. ck.; with 750,000 ft. gas; T.P. 275 lbs.; C.P. 1,000 lbs.; T.D. 8,685 ft.; old T.D. 8,725 ft.; making prod. tests.
Ohio Oil Co. No. 1 W. Cox, Acct. 2, SE cor. SW Sec. 15-21-10. Drlg. sh.&L. 4,075 ft.
Oliphant Oil Corp. No. 1 Fred Banks, C SE NW Sec. 2-20-10. Drlg. sh.&L. 4,043 ft.
Oliphant Oil Corp. No. 1-B Stewart, C NW NE Sec. 5-20-10. Top Tr. Pk. 6,117 ft.; Holloway sd. 6,160-67 ft.; 9⅝-in. csg. 5,884 ft.; drlg. hd. sdy. sh. 7,061 ft.
Oliphant Oil Corp. No. 2-B Stewart, C NW NW Sec. 4-20-10. Drlg. sh. 4,303 ft.
Union Prod. Co. No. 2 Stewart, SW SW Sec. 28-21-10. Drlg. L. 4,510 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Franciol, sec. 67-12s-3e. Drk.

Anse La Butte—St. Martin Parish

Louisiana-Crusader No. 3 Central Oil Co., sec. 86-9s-5e. S.D. 421 ft.
Paul Fly et al No. 1 Moresi Oil Co., Sec. 118-9s-5e. T.D. 1,440 ft.; tstg.

Bateman Lake—St. Mary Parish

Texas Co. No. 1 Wax Bavou, sec. 21-16s-12e. Drlg. sh.&L. 9,715 ft.

Baton Rouge—East Baton Rouge Parish

Wm. Helis et al No. 2-A La. State University, Sec. 66-7s-1w. Drlg. sh.&L. 7,030 ft.
Wm. Helis No. 1 Harry Nelson, sec. 36-7s-1w. Cd. oil sd. 6,477-6,500 ft.; T.D. 7,710 ft.; D.P. stk.; P.B.; sdtrkd.; drlg. sh. 6,129 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 4 State-Bay St. Elaine, Sec. 19-23s-20e. Drlg. sdy. sh. 6,078 ft.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 8 Wilberts, Sec. 66-9s-11e. Drlg. sh. 1,075 ft.

Bayou Choctaw—West Baton Rouge

La. Crusader Oil Co. No. 3 Schwing, sec. 29-8s-11e. Drlg. sh.&L. 7,969 ft.
Standard Oil Co. et al No. 1 Marley Cypress Co., Sec. 29-8s-11e. Drlg. sd.& sh. 7,557 ft.

Bayou Des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 1 Gheens Realty Co., sec. 56-15s-20e. T.D. 7,021 ft.; D.P. stk.; P.B. to 5,000 ft.; sdtrkd. at 5,000 ft.; drld. to 6,984 ft.; 9⅝-in. csg. 6,982 ft.; cg. sdy. sh. 7,679 ft.
Amerada Pet. Corp. No. 2 St. Charles Ld. Co., sec. 13-15s-20e. T.D. 8,500 ft.; 9⅝-in. csg. 8,518 ft.; top salt 9,294 ft.; T.D. 9,295 ft.; P.B. 8,990 ft.; W. O.C.

Big Lake—Cameron Parish

Union Sulphur Co. No. 1 Hebert, Sec. 18-12s-8w. Drlg. sh.&L. 9,778 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 4 State-Terrebonne Bay, Sec. 19-23s-20e. Loc.
Texas Co. No. 29 State, sec. 17-23s-20e. Rig.
Texas Co. No. 53 State, Sec. 18-23s-20e. Drlg. sdy. sh. 5,436 ft.

Cameron Meadows—Cameron

Burton-Sutton Oil Co., No. 26 Sch. Ld., Sec. 16-14s-13w. Drk.
Burton-Sutton Oil Co. No. 23 School Ld., sec. 16-14s-13w. T.D. 5,786 ft.; 7-in. csg. 5,323 ft.; tstd. S.W.; P.B. to sidetrack: T.D. 2,959 ft.; flwd. oil and sanded up; S.D.
Burton-Sutton Oil Co. No. 26 Sch. Ld., Sec. 16-14s-13w. R.U.
Magnolia Pet. Co. No. 22 Cameron Meadows, sec. 21-14s-13w. 9⅝-in. csg. 4,242 ft.; T.D. 6,367 ft.; P.B. 3,830 ft.; perf. csg. 3,777-97 ft.; flwd. 80 bbls. fluid, 80% S.W.; killed well; perf. csg. 3,782-90 ft.; I.P. 25 B.P.D.; pmpg.
Magnolia Pet. Co. No. 23 Cameron Meadows, sec. 21-14s-13w. Drk.

Charenton—St. Mary Parish

Kinsley Oil, Inc., No. 2 Hertel, sec. 21-13s-9e. T.D. 1,133 ft.; 7-in. csg. 1,112 ft.; tstd. S.W.; P.B. 1,095 ft.
Pan American Prod. Co. No. 9 Laws Realty Co., sec. 31-13s-10e. T.D. 7,209 ft.; P.B. 4,000 ft.; T.D. 6,762 ft.; 7-in. csg. 6,762 ft.; I.P. 169 bbls. 18 hrs.; ¼-in. ck.
Pan American Prod. Co. No. 9 Veeder, Sec. 11-13s-9e. T.D. 1,841 ft.; 7-in. csg. 1,830 ft.; tstd. S.W.; dpnd. to 1,905 ft.; tstd. S.W.; P.B. 1,836 ft.; W.O.S.R.
Pan American Prod. Co. No. 10 Veeder, Sec. 11-13s-9e. Loc.

Creole—Cameron Parish

Superior Oil Co.-Pure Oil Co. No. 3 State-Gulf of Mexico. T.D. 2,458 ft.; S.D. acct. of storm.

Darrow—Ascension Parish

Darrow Oil Co. No. 1 Dennis, sec. 68-10s-2e. T.D. 5,750 ft., stky. sh., S.D.
Humble O. & R. Co. No. 1-B Community, Sec. 49-10s-2e. T.D. 7,930 ft.; P.B. 4,416 ft.; drld. out to 4,431 ft.; 5½-in. csg. on bttm.; perf. csg. 4,350-62 ft.; swbd.; no results; perf. csg. 4,354-60 ft.; tstg.
Humble O. & R. Co. No. 14 Gumbel, Sec. 33-10s-2e. T.D. 7,017 ft.; abd.
Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. S.D. 2,523 ft.
Southern Drillers, Inc. (D. J. Simmons) No. 1 August Berteau, sec. 55-10s-2e. T.D. 7,744 ft.; 5½-in. csg. 7,684 ft.; tstd. S.W. 7,596-7,608 ft. and 7,402-06 ft.; P.B. 6,375 ft.; perf. csg. 6,366-70 ft.; tstg.

Fausse Point—Iberia Parish

Texas Co. No. 5 State Lake-Fausse Point, Sec. 35-11s-8e. Driving piling.

Four Isle—Terrebonne Parish

Texas Co. No. 10 State, sec. 24-21s-16e. T.D. 9,243 ft.; rep. rig.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 1 Kuntz, sec. 40-17s-15e. T.D. 10,752 ft.; P.B. 9,178 ft.; 5-in. csg. 9,178 ft.; tstd. S.W. 9,093-95 ft.; tstg. at 8,880-85 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 28 State, sec. 100-23s-38e. Top salt 6,775 ft.; T.D. 6,777 ft.; salt; 7-in. csg. 5,048 ft.; perf. csg. 4,940-75 ft.; tstg.

Grand Bay—Plaquemines Parish

Gulf Ref. Co. No. 2 Grand Prairie Lve., sec. 48-20s-18e (1,320 ft. W of No. 1). Cg. sd.; gas odor 5,959 ft.
Gulf Ref. Co. No. 1 State-QQ, Sec. 6-20s-19e. Loc.

Hackberry—Cameron Parish

Berry Oil Corp. No. 1 Cora E. Lyons, sec. 28-12s-10w (West Hackberry). T.D. 3,535 ft.; 7-in. csg. 3,445 ft.; perf. csg. 3,375-82 ft.; W.O.S.R.
Darryl Davis No. 1 Bickford, sec. 39-12s-10w. T.D. 2,873 ft.; top sh., L., and brkn. cap; S.O. 2,792 ft.; 5-in. csg. 2,778 ft.; T.D. 2,873 ft.; cleaned hole; set cmt. retainer at 2,765 ft.; drld. out to T.D. 2,877 ft.; tstd. S.W.; S.D.
Gulf Oil Corp. No. 1 Noble, sec. 22-12s-10w. T.D. 3,201 ft.; P.B. 2,830 ft.; W. O.C.; to sdtrk. jnk.; fsg.; P.B. 2,830 ft.; sdtrkd. 1,121 ft.; drlg. sd. 2,810 ft.
Stanolind O. & G. Co. No. 12 Carter, Sec. 22-12s-10w. Drlg. sh. 2,595 ft.
Superior Oil Co. No. 1-C Dorrisse, Sec. 30-12s-10w. Drlg. sd.&sh. 3,600 ft.
Texas Co. No. 24-B State, sec. 12s-9w. T.D. 8,052 ft.; sdtrkd.; T.D. 8,163 ft.; run 7-in. csg.
Union Sulphur Co. No. 7 Hanzen, sec. 13-12s-10w. Cg. sd. rk. 4,142 ft.

Horseshoe Bayou—St. Mary Parish

Texas Co. No. 2 State, sec. 37-17s-9e. Drlg. sh.&L. 9,715 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1-A Roane Sugar Co., sec. 38-13s-9e. T.D. 10,645 ft.; milling to sdtrk. stk. D.P.; sdtrkd. 10,253 ft.; S.D. 10,615 ft.; perf. csg. 10,598-10,612 ft.; tstg.

Jefferson Island—Iberia Parish

Texas Co. No. 1 State-Lake Peigneur, Twp. 12s-5e. Top salt 3,642 ft.; base salt 3,741 ft.; drlg. sdy. sh. 5,947 ft.

Jennings—Acadia Parish

Frank Bennett No. 1 Freeman & Carden, Sec. 45-9s-2w. T.D. 5,767 ft.; 7-in. csg. 5,767 ft.; I.P. 90 bbls. 1st. 6 hrs.; 12/64-in. ck.
W. T. Burton No. 6 Roboria, sec. 41-9s-2w. 7-in. csg. 6,721 ft.; fsg. tbg.; T.D. 6,997 ft.; prep. to sdtrk.
Cosmo Pet. Co. No. 1 Jennings-Clement, sec. 46-9s-2w. T.D. 3,552 ft.; sdtrkd.; T.D. 3,581 ft.; fsg.
Frio Oil Co. No. 2 Gulf fee, sec. 45-9s-2w (NW flank). 10¾-in. csg. 1,512 ft. drlg. sdy. sh.&L. 6,278 ft.
Frio Oil Co. No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 6,687 ft.; P.B. 4,300 ft. T.D. 6,170 ft.; twisted off drill collar; fsg.; sdtrkd. 5,550 ft.; drlg. sh.&L. 6,335 ft.
Glassell & Glassell No. 6 Trushell, sec. 42-9s-2w. Drlg. sh.&L. 4,172 ft.
Guaranty Oil Co. No. 1 Rowson & Haber, Sec. 46-9s-2w. Drlg. sdy. sh.&L. 2,995 ft.
Gulf Oil Corp. No. 40 Arnaudet, sec. 48-9s-2w. Drlg. sdy. sh. 1,710 ft.
L. & L. Oil Co. No. 2 Houssiere Latreille, Sec. 47-9s-2w. R.U.R.
Ladak Oil Co. No. 6 Jennings, Sec. 46-9s-2w. Cg. sd. 1,000 ft.
W. S. Noble et al No. 1 Ed Prather, sec. 45-9s-2w. 7-in. csg. 7,450 ft.; T.D. 7,456 ft. (cor.); perf. csg. 7,405-45 ft.; I.P. 392 B.P.D.; 14/64-in. ck.
Pet. Heat & Power Co. No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 3,995 ft.; P. B. 1,774 ft.; tstd. S.W.; S.D.
Pet. Heat & Power Co. No. 2 Iowa-Jennings, sec. 45-9s-2w. T.D. 2,167 ft.; P. B. 1,595 ft.; 5½-in. csg. 1,585 ft.; S.D.
Shell Pet. Corp. No. 4 Community, sec. 40-9s-2w. Drlg. sh. 6,510 ft.
Stanolind O. & G. Co. No. 112 Crowley Oil & Mineral Co., sec. 48-9s-2w. T.D. 6,838 ft.; P.B. 4,890 ft.; to sdtrk.; T.D. 7,079 ft.; abd.
Superior Oil Co. No. 4 Clement, sec. 46-9s-2w. T.D. 6,546 ft.; 7-in. csg. 6,494 ft.; flwd. oil; started making gas; killed; well P.B.; trying to sdtrk. at 6,208 ft.
Superior Oil Co. No. 7 Jennings-Heywood, Sec. 41-9s-2w. T.D. 6,395 ft.; salt; abd.
Superior Oil Co. No. 8 Jennings-Haywood, Sec. 41-9s-2w. Drk.
Superior Oil Co. No. 15 Leckelt, Sec. 42-9s-2w. Drk.
Three Sands Oil Co., Sec. 46-9s-2w. Drlg. gbo. 1,376 ft.
Victor Weisse No. 1 Clement, sec. 46-9s-2w. 6⅝-in. csg. 3,032 ft.; T.D. 3,255 ft.; sdtrkd.; drlg. sh. 2,845 ft.

Lafitte—Jefferson Parish

Carter-Perrin & Brian No. 1 Lucien Adams, Sec. 9-17s-24e. Drlg. sd. 2,280 ft.
Texas Co. No. 12 LaFitte, Sec. 20-17s-24e. Loc.
Texas Co. No. 3 Madison Realty Co., sec. 17-12s-24e. T.D. 10,155 ft.; 7⅝-in. csg. 10,034 ft.
Texas Co. No. 3 Marrero Ld. Co., sec. 29-17s-24e. Drlg. sh.&L. 9,534 ft.
Texas Co. No. 10 Rigolet Cooperative Fur Co., Sec. 28-17s-24e. Drlg. sh.&L. 7,730 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 42 State-Lake, sec. 40-21s-19e. Drlg. sdy. sh. 10,528 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 21 State, sec. 8-23s-18e. T.D. 6,058 ft.; P.B. and sdtrkd.; T.D. 5,761 ft.; PB. 5,536 ft.; to sdtrk.; T.D. 6,048 ft.; P.B. and sdtrkd. 5,100 ft.; drlg. sh. 5,971 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 8 Lafourche, sec. 11-18s-25e. Drlg. hd. sh. 2,664 ft.; 10¾-in. csg. 967 ft.; drlg. L. rk. 4,161 ft.

Leeville—Lafourche Parish

Wm. Helis No. 1-A City of New Orleans, Sec. 35-21s-22e. T.D. 8,216 ft.; rmg.
Texas Co. No. 7 Leeville, sec. 27-21s-22e. Drlg. sh. 3,641 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 Robert Verret, sec. 32-19s-19e. Drlg. hd. sd.&gvl. 1,876 ft.; 20-in. csg. 296 ft.; 13⅜-in. csg. 3,164 ft.; cd. oil sd. 8,463-65 ft.; 9⅝-in. csg. 9,056 ft.; drlg. sh. 9,262 ft.

Lockport—Calcasieu Parish

La. Crusader Oil Co. No. 1 Milam Stieker, sec. 6-10s-9w. Drlg. sh. 1,828 ft.; 10¾-in. csg. 1,028 ft.; cg. sd.&sh. 7,063 ft.

Magnolia Pet. Co. No. 23 Miller, sec. 9-10s-9w. T.D. 7,952 ft.; P.B. 6,774 ft.; tstd. S.W.; P.B. 4,244 ft.

T. C. Markley No. 1 Farquhar (offset Continental No. 1 J. H. Moss). Drlg. sh.&L. 4,160 ft.

Lake Long—Lafourche Parish

Fohs Oil Co. No. 5 State-Lake Long, sec. 64-17s-19e. Drlg. sh. 2,764 ft.; 13¾-in. csg. 2,761 ft.; 9⅝-in. csg.; T.D. 9,398 ft.; oil sd. 9,342-98 ft.

New Iberia—Iberia Parish

H. Fotiades No. 7 Gulf Ld., sec. 25-12s-7e. Drlg.

Wm. Helis No. 6 Schwing, sec. 56-12s-7e. Salt 3,949-59 ft.; P.B. 1,850 ft.; T.D. 3,938 ft.; trying to sdtrk. at 3,872 ft.; drlg. sdy. sh. 5,197 ft.; no report.

Texas Co. No. 4 J. P. Drake, sec. 26-12s-7e. Drlg. sh.&L. 3,590 ft.

Texas Co. No. 2 Clemente Hebert, sec. 25-12s-7e. 10¾-in. csg. 844 ft.; drlg. sh.&L. 3,658 ft.

Texas Co. No. 8 Duke, Sec. 26-12s-7e. Drlg. sd. 4,995 ft.

Texas Co. No. 1 Gonsoulin, Sec. 13-12s-7e. Loc.

Texas Co. No 2 Schwing, sec. 71-12s-7e. T.D. 5,029 ft.; 7-in. csg. 5,014 ft.; I.P. 424 B.P.D.; ¼-in. ck.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 1 H. J. Thevis, Sec. 34-8s-1e. Drlg. sh. 2,030 ft.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 3 Garland, Sec. 4-6s-5e. 16-in. csg. 90 ft.; drlg. sd.&sh. 4,636 ft.

Pan American Prod. Co. No. 1 Rene Nezal. Drlg.

Y. D. Spill No. 1 Gaudet, sec. 4-6s-5e. Drlg. sh. 2,645 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 36 Orleans Lve. Bd., Sec. 14-18s-15e. T.D. 9,726 ft.; run elec. cg. survey.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 1-A Orleans Levee Bd., Sec. 18-19s-17e. Drlg. sh. 8,176 ft.

Gulf Ref. Co. No. 4 State, sec. 17-19s-17e. T.D. 11,014 ft.; P.B. 10,978 ft.; tstd. S.W.; P.B. 10,780 ft.; perf. csg. 10,745-60 ft.; made sqze. job 10,060-70 ft.; perf. csg. 9,685-90 ft.; tstd. S.W.; P.B. 8,921 ft.; W.O.C.

Gulf Ref. Co. No. 5 State, sec. 17-19s-17e. Loc.

Gulf Ref. Co. No. 6 State, sec. 17-19s-17e. Driving piling.

Raceland—Lafourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., sec. 34-15s-19e. 18⅝-in. csg. 262 ft.; T.D. 11,312 ft.; 7-in. csg. 11,312 ft.; S.D.

Amerada Pet. Corp. No. 2 South Coast Corp., Sec. 35-15s-19e. T.D. 12,200 ft.; 4¾-in. csg. 10,189 ft.

Tide Water Oil Co. No. 1-A South Corp., Sec. 34-15s-19e. T.D. 2,382 ft.; run 10¾-in. csg.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 13 United Ld. Co., Sec. 15-10s-4e. T.D. 1,712 ft.; salt; abd.

Pan American Prod. Co. No. 14 United Ld. Co., Sec. 15-10s-4e. R.U.R.

Sorrento Pet. Corp. No. 2 White, sec. 22-10s-4e. S.D. 105 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 1 Joe Sturdivant, Sec. 36-10s-4w. Drlg. sh. 11,459 ft.

Union Sulphur Co. No. 2 T. R. S. Farms sec. 23-10s-4w. Sh. 9,736 ft.; cmtd. 7-in. csg. 8,888 ft.; drlg. sh. 10,161 ft.

Starks—Calcasieu Parish

Lutcher-Moore Co. No. 5 fee, sec. 19-9s-12w. T.D. 4,153 ft., salt; P.B. 3,987 ft.; 7-in. csg. 3,827 ft.; bailed dry; S.D. 3,857 ft.

J. R. Turnbull No. 1 Industrial Lbr. Co., sec. 19-9s-12w. Top salt 2,270 ft.; S.D. 2,273 ft.; P.B. 1,150 ft.; sdtrkd.; drlg. L. 3,215 ft.

Timballer Bay—Lafourche Parish

Gulf Oil Corp. No. 4 State, sec. 36-23-21e. T.D. 7,373 ft.; T.D. sdtrkd. hole 6,231 ft.; fsg.; P.B. and sdtrkd. 3,501 ft.; T.D. 6,545 ft.; drld. by jnk. to 6,668 ft.; P.B.; 7-in. csg. 6,651 ft.; drlg. sdy. sh. 7,055 ft.

Valentine—Lafourche Parish

Wm. Helis No. 3 Valentine Sugars, Inc., Sec. 2-17s-30e. Drlg. sdy. sh. S.O. 7,184 ft.

Pan American Prod. Co. No. 18 Harang, Sec. 8-17s-20e. Top sd. 4,606 ft.; T.D. 4,619 ft.; 7-in. csg. 4,605 ft.; I.P. 611 B.P.D.; ¼-in. ck.

Pan American Prod. Co. No. 1 A. Robichaux, sec. 3-17s-20e. T.D. 5,889 ft.; stk. D.S.; P.B. and sdtrk.; 6,313 ft. D. P. stk.; fsg.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co. No. 1 Bureas Lve. Bd., Sec. 23-21s-30e. Drlg. sd. 6,076 ft.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 Corell, Sec. 44-3s-2e. Drlg. sh. 8,921 ft.

Continental Oil Co. No. 1 Fontenot, Ludeau-Tate Unit, Sec. 46-3s-2e. R.U.

Continental Oil Co. No. 2 La. Ld. & Imp. Co., Sec. 46-3s-2e. Drlg. sh. 8,490 ft.

Continental Oil Co. No. 2 Opelousas, St. Landry, Sec 44-3s-2e. Drlg. sh. 9,023 ft.

Continental Oil Co. No. 2 Pierre McDaniel, Sec. 44-3s-2e. T.D. 8,997 ft.; I.P. 289 bbls. 12 hrs.; ¼-in. ck.

J. R. Hughes Oil Co. No. 1 J. E. Ortego, Sec. 36-3s-2e. Drlg. sdy. sh. 9,082 ft.

Vinton—Calcasieu Parish

J. B. Reddich No. 3 Vincent, sec. 34-10s-12w. T.D. 3,300 ft.; sdtrkd.; drld. to 2,250 ft.; stk. D.S.; abd.

West Gueydan—Vermilion Parish

Magnolia Pet. Co. No. 1 Reese, sec. 5-12s-2w. 13⅜-in. csg. 3,114 ft.; T.D. 7,644 ft.; abd.

Pure Oil Co. No. 1 Vermilion Irrig. Co., Sec. 41-12s-2w. Drlg. sh. 1,608 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 O. Miller, sec. 7-9s-5w. T.D. 8,742 ft.; fsg.

S. LOUISIANA WILDCATS

Acadia Parish

Atlantic Ref. Co. No. 1 Klumpp, sec. 12-7s-2w. Drlg. sdy. sh. 5,956 ft.

Avoyelles Parish

Magnolia Pet. Co. No. 1 W. G. Bowden, Sec. 7-2s-4e. Drlg. sd. 2,845 ft.

Calcasieu Parish

Sun Oil Co. No. 2 Lutcher-Moore, sec. 12-8s-13w. T.D. 2,019 ft.; 13⅜-in. csg. 1,996 ft.; drlg. sh. 4,963 ft.

Wheeler Oil Corp. No. 2 Sch. Ld., sec. 16-9s-7w. 15½-in. csg. 46 ft.; S.D. 641 ft.; T.A.

Cameron Parish

Federal Roy. Co. No. 1 State-Calcasieu Lake, Sec. 34-13s-8w. T.D. 75 ft.

Humble O. & R. Co. No. 2 K. B. Hanzen, 466 ft. S and E, NW cor. SW¼ Sec. 9-12s-6w. Drlg. sh. 9,866 ft.

Pure Oil Co. No. 2 Calcasieu Natl. Bnk., sec. 18-12s-4w (½ mi. N of No. 1). Drlg. sh.&L. 5,000 ft.

Union Sulphur Co. No. 3 Miami Corp., Sec. 33-12s-8w. (Willow Lake area). Drlg. sdy. sh. 7,348 ft.

Concordia Parish

Benedum & McCormick No. 1 L. P. Allen, sec. 35-5n-8e. R.U.

Lafourche Parish

Sun Oil Co. No. 1 Dilbert Stark, Brown Cypress Co., Sec. 70-15s-15e. Tstd. 13 stands oil; D.S.T. 7,186-7,253 ft.; 9⅝-in. csg. 7,242 ft.; I.P. 25 B.P.H.; ¼-in. ck.

Texas Co. No. 1 La Terre, sec. 1-20s-21e. T.D. 8,898 ft.; 9⅝-in. csg. 8,898 ft. drlg. sh. 9,003 ft.

Orleans Parish

W. T. Burton No. 2-B Faubourg de Montluzin, Sec. 1-10s-13e. Drlg. S.W. sd. 5,231 ft.

W. T. Burton No. 1-B R. E. E. de Montluzin, sec. 1-10s-13e. Drk.

W. T. Burton No. 1 State-Lake Pontchartrain, Twp. 10s-13e. T.D. 8,337 ft.; conditioning mud.

Rapides Parish

J. J. Farrell No. 1 W. P. Aertker, sec. 16-4n-1e. Drk.

E. F. Kalb et al No. 1 Lee Lbr. Co., sec. 9-5n-3e. S.D. 140 ft.

St. James Parish

Continental Oil Co. No. 1 Colonial Sugars Co., Sec. 46-12s-5e. T.D. 9,525 ft., salt; abd.

St. John the Baptist Parish

Shell Pet. Corp. No. 1 Godchaux, sec. 97-11s-7e. T.D. 9,494 ft.

St. Landry Parish

Herton Oil Co. et al No. 1 Thistlephlite Lbr. Co., Sec. 60-4s-4e. Drlg. sh. 6,001 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Hazel Burdin, Sec. 15-14s-12e. Dredge canal.

Shell Pet. Corp. No. 1 Jeanerette Lbr. Co., Sec. 14s-12e. T.D. 10,550 ft.; P.B. 6,955 ft.; abd.

Texas Co. No. 6 State Lake Mongoulois. Sec. 10-10s-9e. Drlg. sdy. sh.&L. 7,980 ft.

Texas Co. No. 11 St. Martin Ld. Co., Sec. 21-8s-7e. Top salt 8,904 ft.; T.D. 9,404 ft.; 7-in. csg. 8,912 ft.; fsg. for tbg.

St. Tammany Parish

A. P. Portas No. 1 W. C. Forbes, sec. 33-7s-15e. Drk.

Terrebonne Parish

Shell Pet. Corp. No. 1 Peters, sec. 73-18s-18e. Cg. sh. 10,084 ft.

Texas Co. No. 1 Continental Ld. & Fur Co., Sec. 29-18s-14e. 18⅝-in. csg. 101 ft.; drlg. sd.&shlls. 1,300 ft.

Vermilion Parish

Desoto Oil Co. No. 1 Richardson, Sec. 30-12s-4e. R.U.

Stanolind O. & G. Co. No. 2 F. Stovall, Sec. 88-14s-3e. Dredging canal.

TEXAS

Week Ending September 10

GULF COAST FIELDS

Hastings Field—Brazoria County

Stanolind O. & G. Co. No. 1-B Moore, I.&G.N. Sur. No. 22. Loc.

Stanolind O. & G. Co. No. 7 Remley, H. T.&B. Sur. No. 28. Loc.

Stanolind O. & G. Co. No. 2-C Cecil Brown, W. H. Snyder Sur. Drk.

Stanolind O. & G. Co. No. 2 P. McDonald, Mary Sloan Sur. Drk.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 3 Armstrong Plantation, Polley & Chance Sur. Drlg. sh.&L. 4,056 ft.

Harrison & Abercrombie No. 1 Chenault, C. Breen Sur. Drlg. sh.&L. 9,630 ft.

Harrison & Abercrombie No. 1 Fisher, and Larsen, C. Breen Sur. Drlg. sh. 3,130 ft.

Harrison & Abercrombie No. 1 R. D. McDonald, C. Breen Sur. Loc.

Sun Oil Co. No. 1 Campbell, Chas. Breen Sur. Loc.

Stratton Ridge—Brazoria County

Sterling O. & R. Co. No. 1 J. C. Kramer, T. W. Grayson Sur. T.D. 3,695 ft.; P.B. 3,200 ft.; sdtrkd.; T.D. 4,631 ft., salt; 7-in. csg. 4,631 ft.; drlg. plug.

West Columbia—Brazoria County

Mike Hogg No. 3 fee, G. Tennille Sur. T.D. 5,516 ft.; P.B.; 7-in. csg. 5,410 ft.

Texas Co. No. 25 W. H. Abrams, G. Tennille Sur. T.D. 4,881 ft.; P.B. to sdtrk.; T.D. 4,881 ft.; P.B. and sdtrk.; 7-in. csg. 5,243 ft.

Texas Co. No. 26 Abrams, G. Tennille Sur. Drlg. sd. 5,410 ft.

Texas Co. No. 27 W. H. Abrams, G. Tennille Sur. Drlg. sh.&L. 3,710 ft.

Texas Co.-Sterling O. & R. Co. No. 8 Phillips, Geo. Tennille Sur. Drlg. sh. 5,136 ft.

Cedar Point—Chambers County

Standard Oil Co. of Texas and Salt Dome Oil Corp. No. 2-118 State, Galveston Bay. Drlg. 1,060 ft.

Cotton Lake—Chambers County

J. R. Turnbull No. 1 Casey, S. Barrow Sur. T.D. 6,539 ft.; 5¼-in. csg. 6,525 ft.; perf. csg. 6,460-70 ft. and 6,480-92 ft.; flwd. oil and S.W.; reperf. csg. 6,465-95 ft.; flwd. oil; well went dead; perf. csg. 6,390-6,410 ft.; pulled collapsed csg.; sdtrkd.; T.D. 6,490 ft.; W.O.C.; perf. csg. 6,460-70 ft.; tstg.

Seabreeze—Chambers County

Sun Oil Co. No. 1 Tate, H.T.&B.R.R. Sur. Drlg. sh. 2,115 ft.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1-38 State (6,000 ft. S of field in Turtle Bay). Loc.

Greens Lake—Galveston County

Sun Oil Co. No. 2 Houston Farm Dev. Co., D. Buckley Sur. T.D. 7,505 ft.; cmtd. csg. perf. csg. 6,965-85 ft.; flwd. 500 bbls. of fluid, 90% S.W., 10% oil; ¼-in. ck.; perf. csg. 6,808-18 ft.; flwg. slight amt. of dist.; ¼-in. ck.; T.P. 2,800 lbs.; C.P. 1,650 lbs.

Hitchcock—Galveston County

N. W. Hunter No. 3 Aarco O. & G. Co., A. Burke Sur. Drlg. 4,810 ft.

Maco Stewart No. 5 fee, J. Spillman Sur. Drlg. sh. 3,139 ft.

Bammel—Harris County

H. M. Lawrence and Geo. Lawrence No. 1 C. Ehrkardt, H. Simmons Sur. R.U.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 C. J. Caywood, Reels & Trobough Sur. T.D. 4,672 ft.; run elec. cg. survey; T.A.

Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.

Stanolind O. & G. Co. No. 2 Paul Weber, Reels & Trobough Sur. Loc.

Eureka—Harris County

Jack Frazier No. 2 Emma Helberg, J. Reinerman Sur. Top sd. 7,696 ft.; T.D. 7,737 ft.

Jack Frazier No. 1 Lackner, H. Reinerman Sur. T.D. 9,038 ft.; 5½-in. csg. 8,328 ft.

Houston Oil Co. No. 3 Helberg & Lackner, J. Reinerman Sur. Loc.

Means & McGehee No. 1-D Laura Lackner, Sec. 3, Shady Acres Subd. Drlg. sh. 5,651 ft.

Fairbanks—Harris County

Amerada-Stanolind O. & G. Co. No. 1 Adell, J. Clarkson Sur. Drlg. sh. 1,520 ft.

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 3 Smith, J. Waugh Sur. Loc.

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 2 Silberg, Geo. Ayers Sur. T.D. 6,853 ft.; perf. csg. 6,845-50½ ft.; tstg.

Bridwell O. & G. Co. No. 1 Gibson, Geo. Ayers Sur. Drlg. sh. 6,410 ft.

Gem Oil Co. No. 6 Reid, Geo. Ayers Sur. Drlg. sh. 1,630 ft.

E. M. Halley No. 1 Albert Brown, J. Clarkson Sur. Loc.

D. W. Moore and O'Hern No. 1 Whitehead-Rash, W. S. Powell Sur. Drlg. sh. 5,967 ft.

Skelly Oil Co. No. 3 J. H. Emmott, J. Waugh Sur. T.D. 6,840 ft.; run csg.

Smith and Ownby No. 4 Gibson, Geo. Ayers Sur. T.D. 6,860 ft.; 5½-in. csg. 6,860 ft.

Stanolind O. & G. Co. No. 1 Schumacker, J. Daswell Sur. Drlg. sh. 1,535 ft.

Windsor Oil Co. No. 3 O. E. Parker, J. Waugh Sur. Drlg. sh. 1,212 ft.

Windsor Oil Co. No. 1-B C. D. Ley, Geo. Ayers Sur. T.D. 6,854 ft.; 5½-in. csg. 6,852 ft.

Friendswood—Harris County

Humble O. & R. Co. No. 1 J. L. Jones, Perry & Austin Sur. Drk.

Humble O. & R. Co. No. 5 Kiesling, T. Choate Sur. Drlg. 4,612 ft.

Humble O. & R. Co. No. 1 A. S. Lebeu, T. Choate Sur. Drlg. sh. 4,816 ft.

Humble O. & R. Co. No. 2 J. D. Owens, T. Choate Sur. Drlg. 5,330 ft.

Humble O. & R. Co. No. 3 Settegast, T. Choate Sur. Drk.

Humble O. & R. Co. No. 1 E. E. Watson. Drk.

Humble O. & R. Co. No. 3 Whitcomb, T. Choate Sur. Drlg. sh. 4,130 ft.

Cordele—Jackson County

H. J. Porter No. 1 Woussi, Peter White Sur. Loc.

Clam Lake—Jefferson County

Shell Pet. Corp. No. 2 McFaddin, S. A. Pace Sur. T.D. 8,198 ft., salt; top salt 8,156 ft.; 5-in. csg. 8,059 ft.; perf. 5,548-52 ft.; P.B. 3,895 ft.; perf. csg. 3,880-90 ft.; P.B. 3,801 ft.; perf. csg. 3,820-30 ft.; flwg. oil; went dead; pulling tbg.; T.A.

Shell Pet. Corp. No. 3 McFaddin, S. A. Pace Sur. R.U.

Cheek—Jefferson County

Shell Pet. Corp. No. 1 Ed. Pleasant, C. Hildebrand Sur. T.D. 7,726 ft.; tstd. oil on D.S.T. 7,711-21 ft.; P.B. 7,725 ft.; flwg. 36 bbls. dist. daily through ¼-in. ck.; killed well; perf. csg. 3,845-55 ft.; flwd. 58 bbls. fluid; drlg. by junk 7,704 ft.

LaBelle—Jefferson County

Sun Oil Co. No. 4 Broussard-Hebert, B. Blackman Lge. Cg. sh. 8,595 ft.

Spindletop—Jefferson County

Unity Oil Co. No. 1 Greer Noll, J. A. Veatch Sur., Blk. 7, Spindletop Hgts. Subd. (NE flank wildcat). Drk.

Hardin—Liberty County

Commerce Oil Co. No. 1 Roberts, H. B. Johnson Sur. Drlg. sh. 3,510 ft.

Geo. Echols No. 1 West, H. B. Johnson Sur. Drk.

N. C. Ginther No. 1 West, A. B. Hardin Sur. Drk.

Gulf Oil Corp. No. 2 Tullos, H. B. Johnson Sur. Drk.

Humble O. & R. Co. No. 3 W. S. Partlow, H. B. Johnston Sur. Drlg. sd. 5,820 ft.

Shell Pet. Corp. No. 4-A J. H. Cessna, H. B. Johnson Sur. R.U.

Smith & McDannald No. 2 Rives, A. B. Hardin Sur. Loc.

Texas Co. No. 1 Davis, A. B. Hardin Sur. Drlg. sh. 3,510 ft.

Woodley Pet. Co. No. 2 Emma Davis et al, A. B. Hardin Sur. Drlg. sh. 3,520 ft.

McCrosky—Matagorda County

Pierce Est. No. 5 fee, David Fenton Lge. Loc.

Bay City—Matagorda County

Hamman Expltn. Co. No. 2 Badouh, E. Hall Sur. Loc.

Hamman Expln. Co. No. 3 Thompson, E. Hall Sur. T.D. 9,200 ft.; 7-in. csg. 9,196 ft.; I.P. 206 B.P.D.; ¼-in. ck.

Segno—Polk County

Gulf Oil Corp. No. 3 A. Ragan, L&G.N. Sur., Sec. 15. Drlg. sh. 7,857 ft.

Gulf Oil Corp. No. 12 Wing. T.D. 8,123 ft.; 5-in. csg. 8,123 ft.; perf. csg. 8,114-18 ft.; washing.

Humble O. & R. Co. No. 9-B Kirby, M. Victor Sur. T.D. 8,149 ft.; tstd. 495 ft. of oil-cut mud 8,070-8,100 ft.; D.S.T. 8,200-20 ft.; recvd. 900 ft. gas-cut mud and S.W.

Magnet—Wharton County

Gray & Wolf No. 1 State, Colo. River Sur. 10¾-in. csg. 1,160 ft.; T.D. 5,530 ft.; 5½-in. csg. 5,523 ft.; flwg.; no ga.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.

Glenn McCarthy No. 1 G. C. Street, D. H. M. Hunter Sur. T.D. 6,025 ft.; P. B.; abd.

Texas Co. No. 5 Freeport Sulphur Co., H. Burt Sur. T.D. 4,021 ft.; abd.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.

C. C. Calvin No. 1 Sherman, James McFaddin Sur. T.D. 1,561 ft.; abd.

Salt Dome Oil Corp. No. 1 Ogden, E. Douthit Sur. Drk.

Galveston County

F. J. Anderson No. 1 L. Lobit, Lot A. Subd. No. 6, J. M. Perry and E. M. Austin Lges. Bldg. drk.
Sun Oil Co. No. 1 Cade, A. Dickinson. T.D. 8,120 ft., sh.; cmtd. 7-in. csg. 8,750 ft.; (protection string); D.S. stk. sdtrkd. hole 7,341 ft.; T.D. 8,245 ft.; 9⅝-in. csg. 8,242 ft.; T.D. 8,805 ft.; abd.

Harris County

H. H. Givens No. 2 F. K. Adone, David Middleton Sur. Drk.
Humble O. & R. Co. No. 1-A Keeler, W. Whitlock Sur. Loc.

Jefferson County

Geo. Echols et al No. 1 American Natl. Bnk., J. J. French Sur. Drlg. sh. 2,-640 ft.
I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.
Humble O. & R. Co. No. 8-B McFaddin-State, Gulf of Mexico. 7-in. csg. 810 ft. drlg. sdy. L. 2,717 ft.

Lavaca County

Crosby Drlg. Co. No. 1 Bertha Graf, Sublime area. T.D. 6,273 ft.; abd.

Liberty County

John G. Mayo, Inc., No. 1 M. E. Roberts, J. F. DeRumayor Sur. 7-in. csg. 40 ft.; drlg. sh. 3,804 ft.
Wallace & Hargrove et al No. 1 J. C. League, M. DeLos Santos Sur. Drlg. sh. 5,612 ft.

Matagorda County

Glenn H. McCarthy No. 1 Nancy Moffett et al, Susan Perkins Sur. 10¾-in. csg. 2,405 ft.; drlg. sd. 8,669 ft.
Ohio Oil Co. No. 1 W. D. Cornelius, P. C. Yarborough Sur. T.D. 7,742 ft.; S. W. sd.; will run csg.

Montgomery County

Deep South Pet. Corp. No. 1 Foster Lbr. Co., Preyor Bryan Sur. 10¾-in. csg. 700 ft.; drlg. sh. 2,373 ft.
David D. MacDaniel No. 1 J. C. Fleming, D. M. Gaheen Sur. Temp. S.D. 4,650 ft.
G. G. M. Oil Co. No. 1 Floyd Oil Co., Lot 62, W.C.R.R. Sur. No. 11. M.I.M.
J. Smith et al No. 1 J. V. Scott, F. A. B. Wheeler Sur. S.D. 380 ft.
W. L. Todd et al No. 1 I. L. Martin, Z. Landrum Sur. T.D. 4,215 ft.; abd.

Newton County

Republic Prod. Co. No. 1 Sabine Tram, Isaac Garner Sur. (NW Starks Prospect). Drlg. sh. 6,249 ft.

Orange County

Sun Oil Co. No. 1 Lutcher-Moore Lbr. Co., B. Johnson Sur. Drlg. 220 ft.

Waller County

Stanolind O. & G. Co. No. 1 J. J. Sweeney Est., T. S. Reese Sur. No. 110, 2,-640 ft. E of No. 1 Freeman in Katy gas field. Loc.
Stanolind O. & G. Co. No. 1 Young, T. S. Reese Sur. No. 124. 13¾-in. csg. 136 ft.; drlg. sh. 3,220 ft.

Washington County

Speed Oil Co. et al No. 1 August Makowsky, D. McIntyre Sur. 10¾-in. csg. 964 ft.; drlg. sh. 4,626 ft.

Wharton County

Western Gulf Pet. Co. No. 1 Rust, B. Johnson Sur. R.U.

S. W. TEXAS WILDCATS

Atascosa County

R. C. Stanley No. 1 Schumann, Simon Malone Sur. No. 1069. Cg. 1,107 ft.

Bastrop County

R. C. Franklin No. 2 Yarrington, Jose Manuel Bangs Sur. S.D. 1,725 ft.
Paul Texas and Ashby No. 1 J. T. Grizzard, Andrew Graham Sur. Drlg. sh. 6,590 ft.

Bee County

Atlantic Ref. Co. No. 1 Courtney, Geo. Kerr Sur. T.D. 3,660 ft.; D.D.; T.D. 3,665 ft.; pmpd. 65 bbls. oil in 35 hrs.

Bell County

M. M. Gordon No. 1 Steele, Oliver T. Tyler Sur. S.D. 1,185 ft.

Bexar County

M. S. Blackburn No. 1 Miller, Thos. Barwick Sur. No. 324. Spd.
Frank Gilpin, Jr., No. 1 Nieman, Juan Montes Sur. S.D. 40 ft.
Nami Herman No. 1 W. F. Fields, A. Bustillos Sur. T.D. 737 ft.; 5⅛-in. csg on bttm.; abd.
Lewis Ridder No. 1 fee, Jose Maria Baerera Sur. Loc.

Blanco County

D. M. Johnston No. 1 Glasscock, W. W. McDonald Sur. No. 50. 10-in. csg. 150 ft.; S.D. 840 ft.

Caldwell County

R. H. Dye No. 1 Voight, Wm. Watkins Sur. S.D. 1,500 ft.

Calhoun County

Hiawatha O. & G. Co. No. 2 J. J. Roemer, J. Ogsberry Sur. 9⅝-in. csg. 8,-005 ft.

De Witt County

Marjo Oil Co. No. 1 W. D. McCurdy, John Hunt Sur. S.D. 150 ft.

Duval County

W. H. Appell No. 1 Rogers, El Mesquite gr. S.D. 2,665 ft.
Atlantic Ref. Co. No. 1 Garcia, Sec. 409. Bldg. drk.
James Foster No. 1 Foster, B.S.&F. Sur. No. 268. S.D. 2,010 ft.
Frank Gravis No. 2 Schallert, Seale, Morris & Seale Sur. No. 255 (Palagana salt dome). Cg. sh. 3,368 ft.
Magnolia Pet. Co. No. 1 Duval Co. Rnch. Co., C.C.S.D.&R.G.N.G. Sur. No. 81. Drlg. sh. 2,127 ft.
E. J. Purl No. 1 Corkill, J. Poitevent Sur. Spd.

Edwards County

Evans & Love No. 1 Steve Brown, Blk. 6, G.W.T.&P. Sur. S.D. 6,261 ft.

Frio County

Humble O. & R. Co. No. 1 Schley, Jos. Travalder Sur. No. 174. 15-min. D.S.T. 3,520-51 ft. tstd. no press.; recvd. 175 ft. mud with oil odor and 180 ft. S. W.; 15-min. D.S.T. 3,595-3,617 ft. tstd. 45 ft. of mud, S.S.O.; drlg. 4,576 ft.

Goliad County

Sun Oil Co. No. 1 Lee Homer, John Payne Sur. Drlg. sh. 6,280 ft.

Guadalupe County

R. Hamil No. 1 E. J. Zuehl, Vincente Duran Sur. S.D. 450 ft.
A. D. King Rosenbrock, Vincente Duran Sur. Drlg. 756 ft.
Pegg Bros. No. 2 Maierhoffer, L. H. Peters Sur. T.D. 955 ft.; abd.
R. A. Williams No. 1 Weber, Guadalupe Torres Sur. Drlg. 1,118 ft.

Hidalgo County

R. E. Hardin et al No. 1 E. M. Car, Hidalgo Co. Canal Subd., Lot 8, Blk. 8. Drlg. sh. 4,178 ft.
Phillips Pet. Co. No. 1 Flores (deep test N of Samfordyce field). T.D. 5,860 ft.; cmtd. 7⅝-in. csg. 5,847 ft. (protection string); drlg. sh. 7,998 ft.
Union Sulphur Co. No. 1 Am.-Rio Grande Ld. & Ir. Co. (Mercedes). Cmtd. 7-in. csg. 8,417 ft.; T.D. 9,618 ft.; 5½-in. lnr. set 8,369-9,618 ft.; tstd. S.W. 9,-420-30 ft.; made sqze. job; P.B. 9,390 ft.; perf. csg. 9,372-80 ft.; swbd. S.W. and gas; perf. csg. 9,347-52 ft.; tstd. S.W.; perf. csg. 9,255-60 ft.; tstd. S. W.; S.D.
Wheelock & Collins No. 1 Temple Lbr. Co., Lino Cavos, Porc. 57-A. S.D. 6,-589 ft.; high wtr.

Jim Hogg County

Henshaw Bros. No. 1 Trevino, L. Ramirez Sur. No. 38. T.D. 3,005 ft.; abd.
Humble O. & R. Co. No. 2 Kelsey Bass, San Rafel Sur. T.D. 3,482 ft.; 10¾-in. csg. 3,469 ft.; T.D. 4,754 ft.; run csg.; tstd. 1,011 ft. P.L.O.; D.S.T. 4,726-54 ft.; 7-in. csg. 4,754 ft.; perf. csg. 4,-742-48 ft.; flwg. 22 B.P.D.; 3/32-in. ck.

Jim Wells County

Gulf Board Oil Corp. and Mills Bennett No. 1 Forry, Lavaca gr. Loc.
H. H. Howell No. 1 Stillwell, Blk. 63, L. G. Collins subd. T.D. 5,300 ft.; tstg.
Humble O. & R. Co. No. 1 Ben Belitz, Staples Sur. Spd.
Humble O. & R. Co. No. 1 John A. True, Los Presenos de Abajo Sur. 10¾-in. csg. 1,090 ft.; drlg. sh. 4,786 ft.
Magnolia Pet. Co. No. 1 Romano, V. de Garcia Las Animas Sola gr., 1,126 ft. E of discovery well. Drlg. sh.&L. 5,686 ft.
Magnolia Pet. Co. No. 1 Martin, Ana Maria Vaco gr. T.D. 6,720 ft.; abd.
Presnall & Tsesmelis No. 1 Hoffman, Marcellino Lopez Sur. R.U.
Shell Pet. Corp. No. 1 C. H. Von Blucher, Lucinda Best Sur. Cg. sdy. sh. 7,100 ft.
Smith & McDannald No. 1 Rooney, Casa Blanca gr., Blk. 11. Drlg. 5,695 ft.
Transwestern Oil Corp. No. 1 B. H. Dunlap, Sur. 179-181 (1½ mi. SW East Fremont field). 18⅝-in. csg. 485 ft.; T.D. 5,107 ft.; sdtrkd.; drlg. sh. 4,239 ft.

Kendall County

Geo. Dorsey No. 1 Flanagan, J. Sweeney Sur. No. 12. S.D. 350 ft.
Millican and Norman No. 1 Werner, J. F. Torrey Sur. T.D. 909 ft.; bailed oil; 5½-in. csg. 907 ft.; treated with acd.; tstg.

Kerr County

H. C. Starkey No. 1-A Saue. T.W.N.G. R.R. Sur. S.D. 100 ft.; (cor.).

Kimble County

Phillips Pet. Co. No. 1 Mudge, C.C.S.D.& R.G.N.G.R.R. Sur. No. 9. Drlg. 2,100 ft.
Plateau Oil Co. No. 1 S. J. Davis, N. Mitchell Sur. No. 44. S.D. 170 ft.
Plateau Oil Co. No. 1 Hunger, J. Dujner Sur. T.D. 1,600 ft.; prep. to sdtrk.

Kleberg County

Pure Oil Co. et al No. 1 State Ld., Tr 68, Laguna Madre Bay, Lse. No. 528 T.D. 9,350 ft.; fsg.

La Salle County

Lake-Tobian Oil Co. No. 1 O'Connor ranch, Blk. 35, Bland & Nelson subd. Spd.

Lavaca County

A. C. McCord et al No. 1 Cora Russek, Blk. 33, J. C. Reynolds Sur. (S of Ezzell). Spd. and S.D.
Midway Oil & Royalty Co. No. 1 Michaleik, S. H. Jack Sur. Drlg. sh. 6,208 ft.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. Drlg. sh. 3,416 ft.
A. H. Tarver No. 1 J. W. Lawhon. T.D. 3,345 ft., Edws. L.; run 5½-in. csg. to test at 3,300 ft.; recmtd. csg.; W. O.C.

Live Oak County

J. K. Adair No. 1 Schultz Live Stock Co., Wm. J. Pierce Sur. 10¾-in. csg. 20 ft.; S.D. 700 ft.
R. H. Feltner No. 1 Reed, I.&G.N. R.R. Sur. 15. R.U.
Frank Gravis and Mintex Dev. Co. No. 1 Northwest Inv. Co., Uel Ritchie Sur. No. 133. Loc.
Hanna et al No. 2 West, C. O. Ragland Sur. Drlg. sh. 3,249 ft.
Holland Oil Co. No. 1 Wallace, Cameron Co. Sch. Ld. Sur. S.D. 200 ft.
Wellington Oil Co. No. 1 Sanger, T.T.R. R. Sur. 349. R.U.
V. G. Schimmel et al No. 1 Geo. West, G. L. Haas Sur. T.D. 210 ft.
Wallace & Jones No. 1 Burrows, Eneas Smith Sur. Cg. 2,266 ft.; no report.

McMullen County

Albright & Dover No. 1 Nueces Ld. & Lvstk. Co., B.S.&F. Sur. No. 119. Cd. oil sd. 1,202-11 ft.; T.D. 1,213 ft.; 4-in. csg. 1,201 ft.; I.P. 100 bbls.; pmpg.
W. T. Kirby No. 1 Chylek, J. M. Hernandez Sur. T.D. 1,210 ft.; D.D.
Scarborough & Bigiane No. 1 Matula Emmitt, Jas. Garner Sur. No. 6. Drlg. 100 ft.
Wm. Spice, Jr., No. 1 Edrington, A.B.& M. Sur. 57 (5 mi. E. Loma Alto). Drlg. sh. 1,916 ft.

Maverick County

L. M. Lockhart No. 1 Ashbrook, W. J. Phillips Sur. No. 83. Drlg. L. 3,276 ft.
Wellington Oil Corp. No. 1-B Chittim, I. &G.N. Sur., Blk. 6, sec. 98, 14 mi. SE of Eagle Pass. T.D. 2,727 ft.; T.A.

Medina County

J. W. Cromwell No. 1 J. W. Tondre, J. Rogers Sur. T.D. 1,250 ft.; P.B. 1,-080 ft.; cmtd. csg. 1,021 ft.; shot 1,-024-80 ft.; T.D. 1,336 ft.; S.D.
A. D. Gaston No. 1 Rogers, Henry Wilson Sur. Drlg. 200 ft.
L. W. Stieren No. 1 Haegelin, Dolly Smitherman Sur. Drlg. 1,042 ft.; run 5½-in. csg.
Ziegler et al No. 1 Wiemers, F. Thurman Sur. S.D. 905 ft.

Nueces County

Phillips Pet. Co. No. 1 Masten, Blk. 146, Delores I. & A. Co. Sur. R.U.
Texas Co. No. 1 E. Little et al, Wm. Little Sur. Spd.
Union Prod. Co. No. 1 Minnie Brown (Agua Dulce area). T.D. 10,768 ft.; prep. to run 7-in. lnr.

Refugio County

I. J. Allen No. 1 Rooke, Aldrite Sur. O.W.D.D.; tstd. S.W.; D.S.T. 5,415-20 ft.; top sd. 5,902 ft.; D.S.T. 5,897-5,-902 ft.; tstg. 105 lbs. press.; 12 min.; perf. csg. 5,902-05 ft.; I.P. 118 B.P.D.; 1/8-in. ck.; T.P. 1,775 lbs.; C.P. 2,375 lbs.
I. J. Allen No. 3 Rooke, Jose Miguel Aldrite and Jose Marie Aldrite Sur. (933 ft. SE of No. 2). Loc.

San Patricio County

Seaboard Drillers No. 1 Smith, G. H. Paul Subd. of J. J. Welder ranch. 10¾-in. csg. 768 ft.; T.D. 5,616 ft.; abd.

Starr County

Hagan and Stewart Oil Co. et al No. 1 Salinas, Antonio Canales Salinas gr. T.D. 2,020 ft.; abd.
Magnolia Pet. Co. No. 1 Guerra, Santa Cruz gr. (LaReforma field), 1,900 ft. SW of discovery well. Drlg. sh. 5,-112 ft.
Massingall and J. R. B. Moore No. 1 Garza, Jose S. Garza Porc. 88. S.D. 2,731 ft.
Sun Oil Co. No. 1 McKinney, Sur. 242. Tst. 1,300 ft. oil; D.S.T. 4,841-54 ft.; tstg.
W. W. Zimmerman et al No. 1 Starr Co. Cattle Co., Juan De La Garza, Porc. 89. T.D. 3,008 ft.; abd.

Travis County

L. G. Priest No. 1 Mazock, J. M. Leavy Sur. No. 5. S.D. 855 ft.
R. F. C. Oil Co. No. 1 Jones, Reube Hornsby Sur. No. 17. 5-in. csg. 1,009 ft.; drlg. L. 1,307 ft.

Webb County

W. H. Holland No. 1 Bruni, J. V. Borrego gr., C Blk. 76, El Ranchito pasture. R.U.
Lewis Jones No. 1 Bruni, Alberca De Arriba gr. Drlg. sh. 2,585 ft.
J. W. O'Byrne No. 1 Lacey, Mary E. Wideman Sur. S.D. 2,515 ft.

Williamson County

F. J. Anderson No. 1 Teichelman Absalam, Jett Sur. Drlg. L. 2,410 ft.
H. H. Coffield No. 1 Poe, Harrison Owens Sur. S.D. 2,175 ft.
Fritz Fuchs No. 1 Stiles, Jehu Bevil Sur. No. 56. S.D. 1,085 ft.

Wilson County

Stapper Oil Co. No. 1 J. McDaniel, L. Manchoca Sur. S.D. 3,008 ft.

Zapata County

Thompson & Lowe No. 1 Ramirez, Blk. 6, Doyle Subd. of Porc. 18. S.D. 735 ft.

EAST TEXAS

(Border Counties)

Cass County

Bateman Drlg. Co. No. 1 Eliza Jaynes, 80-ac. tr., Ambrose Douthet Sur. Drlg. sh.&L. 4,046 ft.
Bay Oil Corp. No. 6 Cobb, G. Crowder Sur. Drlg. 500 ft.
Harry Hanbury No. 1 Echols et al, SE cor. Echols tr., Wm. Mayes Sur. Tstd. S.W. and S.O. 5,987 ft.; P.B. 5,967 ft. and W.O.C.; old T.D. 5,987 ft.; drld. out to 5,970 ft.; tstd. S.W.; S.O.; W.O.
Texarkla Oil Corp. No. 1 Mayo, Bryant Holmes Sur. Set 6⅝-in. csg. 6,120 ft.; perf. 6,068-80 ft.; tstd. S.W.; shot formation 6,068-80 ft. with 3 qts. nitro; tstg.

Marion County—Rodessa

Ark.-La. Gas Co. No. 1 Badgett, Allen Urquhart Sur. Set 7-in. csg. 5,969 ft.; T.D. 5,998 ft.; acd. and tstg.
Ark.-La. Gas Co. No. 4 Holland, Hanks Sur. Set 7-in. csg. 6,050 ft.; acdz. with 3,000 gal acd.; tstd. 13 B.P.H.; ¼-in. ck. and 3,500,000 ft. gas; reacdz.; tstd. 5½ B.P.H.; ¼-in. ck.; T.P. 1,950 lbs.; C.P. 2,050 lbs.; set 5-in. csg.; T.D. 6,-090 ft.; perf. 6,058-68 ft. and 6,068-86 ft.; tstg.
Ark.-La. Gas Co. No. 1 Hussey, Chas. Lockhart Sur. Drlg. sh. 404 ft.
Gulf Oil Corp. No. 3 Grubaugh, Coy Sur. Set 5-in. csg. 6,102 ft.; comp.; 25 B.P.H.; ⅜-in. ck.; T.P. 0 lbs.; C.P. 220 lbs.; T.D. 6,123 ft.
Hollandsworth Drlg. Co. No. 1 H. B. Davis, Wm. Smith Sur. Set 5-in. csg. 5,999 ft.; T.D. 6,026 ft.
Phillips Pet. Co. No. 2 Beard, Bennington Sur. T.D. 6,050 ft.; set 7-in. csg. 6,045 ft.; perf. 5,952-62 ft.; tstg.
Phillips Pet. Co. No. 2 Benefield, J. Hanks Sur. T.D. 6,170 ft.; set 7-in. csg. 6,157 ft.; perf. 6,066-73 ft. and 6,084-87 ft.; tstg.
Shell Pet. Corp. No. 5 Schluter, Wm. Smith Sur. 5-in. csg. 6,094 ft.; perf. 6,066-82 ft.; tstg. 6,097 ft.
Texas Co. No. 1 Braden, J. M. Fitzgerald Sur. R.U.

Panola County

Texas Co. No. 1 Claude Adams, T. Cox Sur. Top lower Marine 7,792 ft.; D.S. stk. 11,303 ft.

Sabine County

Hugo Allen No. 1 Brooks, Isaac Low Sur. D.S. stk.; T.D. 5,644 ft.; fsg.

WEST TEXAS WILDCATS

Andrews County

Fuhrman Pet. No. 1 G. O. Ashton, sec. 12, Blk. A-42, P.S.L. Sur. Tstg. 30 B.O.P.D.; on pmp.
Olson Drlg. Co. No. 1 Lockhart-Brown, 5 mi. W of south end of Fuhrman pool. P.B. 4,770 ft.; C.O.
Texas Co. No. 1-H University, Sec. 4, Blk. 14, Univ. Sur. Loc.
J. W. Tripplehorn No. 1 M. A. Thornberry, Sec. 2, Blk. 42-A. S.D. 120 ft.
H. C. Wheeler No. 1 White-Shelton, Sec. 18, Blk. 36-A, P.S.L. Sur. M.I.M.

Cochran County

Magnolia Pet. Co. No. 1 Della Wright, Lab. 7, Lge. 96, Mills Co. Sch. Lds. Sur. Drlg. 2,110 ft.
Texas Co. No. 1 D. S. Wright, Lge. 115, Lab. 23, Potter Co. Sch. Lds. Bailing 4,938 ft.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, sec. 39, Blk. W, T.&P. Sur. Pulling tbg. 1,-861 ft.

Crane County

Gulf Oil Corp. No. 4 McKnight, sec. 1, Blk. B-21, P.S.L. Sur. Tstg. 6,495-6,-568 ft.
Gulf Oil Co. No. 2-B State-Lassiter, University Sur., Blk. 30, Sec. 27. Tstg., swbg. 30 B.O.P.D. 3,010-3,113 ft.; fsg. sd. pmp. 3,172 ft.

Crockett County

Short & Gillette No. 1 J. W. Owens, Jose Zunegas Sur. Drlg. 1,940 ft.

Culberson County

Harry J. W. Niehaus No. 1 fee, Blk. 109, sec. 13, P.S.L. Sur. 1,800-ft. test. S.D. 2,500 ft.
Quito Oil Co. No. 1 Cameron Lbr. Co., sec. 24, Blk. 81, P.S.L. Sur. S.D.R. 945 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. Drlg. 2,702 ft.

Ector County

Fields et al No. 1 Owenwood, sec. 6, Blk. 44, T.&P. Sur. R.U.R. 250 ft.
Sinclair Prairie No. 2-B P. Moss, sec. 40, Blk. 44, T.&P. Sur. S.D.O. 4,177 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel. S.D. 3,-571 ft.

Gaines County

Atlantic Refg. Co. No. 1 A. J. & J. J. Parker, Sec. 264, Blk. G. W.T.R.R. Sur. R.U.R.
Devonian Oil No. 1 King Est., Sec. 6, Lge. 305, Dawson C.S.L. Sur. Drk. and M.I.R.

Garza County

Gulf Oil Corp. No. 1 Swanson, sec. 25, Blk. 2, H.&G.N. Sur. U.R. 7,420 ft.

Hockley County

Gulf Oil Co. No. 2 Mallett, Lge. 34, Labor 25. P.B. 5,070 ft.; tst. 10 B.O. 4 hrs.

Sid W. Richardson No. 2 Slaughter, Lge. 39, Lab. 58, Maverick Sur. W.O. flwd. 100 B.O.P.D.; T.D. 4,989 ft.

Snowden & McSweeney No. 1 A. A. Slaughter, Zavalle C.S.L. Sur., Lge. 35, Lab. 74. Drlg. 3,700 ft.

The Texas Co. No. 1-B Mallett Lands, Lab. 1, Lge. 52, Scurry C.S.L. Sur. R.U.R.

Howard County

Anderson & Prichard No. 1 H. Hyman Est., sec. 85, Blk. 29, W.&N.W. Sur. Rng. 7-in. 1,991 ft.

W. B. Powell, Trustee, No. 1 Guitar Trust, Blk. A, sec. 17, Bauer & Cockrell Sur. Drlg. 2,820 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. Drlg. 4,935 ft.

Haymon Krupp No. 1 Briggs, sec. 24, Blk. 73, Twp. 7, T.&P. Sur. C.O. 4,402 ft.

Jeff Davis County

Joiner Oil Corp. No. 1 Jones-Coffield. S.D. 3,742 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co. Sec. 151, H.E.&W.T. Sur. C.O. 4,450 ft.; T.D.

Menard County

C. D. Haggerty No. 1 Callon, sec. 36, Jim Franz Sur. W.O.C. 5-in. 1,200 ft.

Pecos County

E. B. Carruth Tr. No. 1 J. H. Tippett, Sec. 4, Blk. 194, G.C.&S.F. Sur. Loc.

Geo. J. Greer No. 1 Price Est., Sec. 3, Blk. 12, H.&G.N. Sur. Drlg. 900 ft.

J. N. Gregory et al No. 1 Humble-O'Niell, H.&G.N. Sur., Blk. 10, Sec. 74. Drlg. 1,195 ft.

Helmerich & Payne et al No. 1 Dow Puckett, Sec. 66, Blk. 3, T.&P. Sur.; 3,500-ft. test. Loc.

Humble O. & R. Co. No. 1 A. H. Robertson, Sec. 27, Blk. OW, T.C.R.R. Sur.; 4,500-ft. test. Bldg. drk.

Magnolia Pet. Co. No. 1 McKee. P.B. 6,197 ft.; P.B. 6,180 ft.; P.B. 5,306 ft. P.B. 1,800 ft.; W.O.C.

O. E. Schade No. 1 Neville, Sec. 72, Blk. 194, G.C.&S.F. Sur.; 2,500-ft. test. M.I.M.

S. Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. Fsg. 7,275 ft.

Thomason Prod. Co. No. 1 Notions, Sec. 1, Blk. 105, W. P. Howard Sur. Drlg. 270 ft.

Union Oil & Mining Co. No. 1 First Natl. Bnk. of Ft. Stockton, sec. 6, Blk. 9, H.&G.N. Sur. S.D. 1,760 ft.

Reagan County

Culbertson & Irwin No. 1 J. F. Nunn, Sec. 26, Blk. B, L.&S.V. Sur. Drlg 2,760 ft.

Reeves County

Frankley & Rice No. 1 W. A. Tunstill, Sec. 10, Blk. 56, T.&P. Sur. Drlg. 2,095 ft.

Onio Oil Co. No. 1 Papham, sec. 18, Blk 54, T.&P. Sur. Drlg. 3,230 ft.

Runnels County

Castor-Koerner & Goodrich No. 1 Beddo, Subdiv. 41, T. T. Williamson Sur. No. 15½. Loc.

Scurry County

Coffield & Guthrie No. 1 E. E. Spears et al, sec. 130, Blk. 97, H.&T.C. Sur. Drlg. 3,375 ft.

Gursham-Hunter No. 1 C. M. Wellborn Sec. 142, Blk. 25, H.&T.C. Sur. D.&A. 3,050 ft.

Sterling County

J. W. Sward No. 1 Brennand, sec. 10?, Blk. 2, H.&T.C. Sur. S.D.O. 3,011 ft.

Stonewall County

General Crude Oil Co. No. 1 J. D. Smith, sec. 371, Blk. 2, H.&T.C. Sur., 12 mi. N Rotan. Drlg. 4,973 ft.

Swanson & Parriott No. 1 H. T. Carlisle Sec. 293, Blk. D, H.&T.C. Sur. Pmp. 150 B.O. and 150 B.W.P.D.; T.D. 5,176 ft.

Terrell County

Schermerhorn Oil No. 1 H. P. Allison, sec. 22, Blk. B-2, C.C.S.D. & R.G.N.G. Sur.; 2,500-ft. test. Drlg. 1,775 ft.

Tom Green County

Spinner No. 1 Reed, Mason Ferry Ranch. Sur. Fsg. 5,118 ft.

J. B. Watson No. 1 Llano, C.S.L. Sur., Sec. 16; 500-ft. test. Drlg. 401 ft.

Upton County

White & Wilson No. 1 Webb, Sec. 176, Blk. 1, C.C.S.D.&R.G.N.G. Sur. Loc.

Val Verde County

A. W. Little No. 1 R. W. Sellers, sec. 34, H.&G.N.R.R. Sur. 1,500-ft. test. Prep. deepen from 200 ft.

Ward County

Herschel M. Jaffe No. 1 Viola Meyers, Sec. 17, Blk. 32, H.&T.C. Sur. Drlg. 400 ft.

Peerless O. & G. No. 1 F. M. White, sec. 36, Blk. 1, H.&T.C. Sur. S.D.O. 2,276 ft.

Winkler County

S. W. Richardson No. 1-A J. M. Broshara, Sec. 22, Blk. 77, P.S.L. Sur. Drlg. 1,260 ft.

J. R. Sharp No. 1 Sharp-Crume, sec. 7, Blk. B-2, P.S.L. Sur. Drlg. 2,415 ft.

J. R. Sharp No. 2 Sharp-Crume, sec. 7, Blk. B-2, P.S.L. Sur. Loc.

Yoakum County

Honolulu Oil Co. No. 1 R. M. Kendrick, Sec. 825, Blk. D, J. H. Gibson Sur. Rng. 13-in. 335 ft.

Magnolia Pet. Co. No. 1 Lynn, sec. 770. Drlg. 4,890 ft.

S. C. Yingling et al No. 1 Nettie Barrier, Sec. 6. Drlg. 4,379 ft.

TEXAS PANHANDLE

Carson County

Texhoma Nat. Gas Co. No. 1 J. M. Poling, Sec. 30, Blk. Y-2, T.&T. Sur. S.G. 2,914-3,058 ft.; sour gas; drlg. 3,147 ft.

Collingsworth County

White No. 1 Wischamper. S.D. 2,263 ft. Johnson No. 1 Taylor. S.D. 875 ft.

Deaf Smith County

Uscan No. 1 Farwell. S.D. 5,650 ft.

Donley County

Robinson No. 1 Kuteman, Sec. 88, Blk. 20, H.&G.N. Sur. R.U.S.T. 2,840 ft.

Floyd County

Mills Bennett No. 1 Montgomery, F. J. Latham Sur., 6 mi. S of Floydada. S.D. 5,960 ft.

Gray County

Lone Star Gas Co. No. 1 Fowler. S.D. 2,730 ft.

English No. 1 Eudy. S.D. 3,977 ft.

Hardeman County

Hillsboro Oil Co. No. 1 Thomas, Sec. 314, Blk. H. Loc.

Kent County

B. Dolman et al No. 1 C. V. O'Keefe, Sec. 50, Blk. 1. 15½-in. csg. set at 140 ft.; drlg. at 180 ft. last report.

Lipscomb County

M. C. Tieman No. 1 Spangle, Sec. 626, Blk. 43, H.&T.C. Sur. S.D. 50 ft.

Parmer County

Jennings No. 1 Wilson, Sec. 73, Blk. H, Kelly Subd. Loc.

Potter County

Sinclair Prairie Oil Co. No. 1 Bush, Sec. 23, Blk. 6, B.S.F. Sur., about 3 mi. N of Amarillo; 8,500-ft. test. Gas 3,532-50 ft.; circulating.

Roberts County

Whitlock No. 1 Cunningham. S.D. 2,750 ft.

E. C. TEXAS WILDCATS

Anderson County

J. H. Gardner No. 1 G. W. West, L. Hopkins Sur., 2 mi. SE of Denison Springs. D.&A. 5,750 ft.

H. L. Hunt No. 1 Shaw & Cern, D. Parker Sur. Tstg. 5,350 ft.

Angelina County

W. C. Atkinson No. 1 So. Pine Lbr. Co., T.&N.O. Sur. No. 14, 9 mi. SW of Lufkin. R.U.

J. C. Bonham No. 6 Cameron Lbr. Co., S.D. 1,100 ft.

Cherokee County

R. Bunn Drlg. Co. No. 1 Bolin, W. A. Walter Sur., 3 mi. SE of Lone Star; 3,000 ft. E of Bunn No. 2 Bounds. Drlg. 3,120 ft.

Freestone County

G. Shryock No. 1 M. S. Clark, M. D. Canton Sur., 8 mi. NW of Teague. Drlg. 3,310 ft.

Grayson County

Jim McMurrey No. 1 Dr. T. J. Long, J. Garland Sur., 2 mi. S of Collinsville; 4,000-ft. test. Loc.

Gregg County

Humble-Gulf No. 1 Porter Hortor, H. G. Hudson Sur., 3½ mi. SW of Longview; 7,500-ft. test. Drlg. 6,509 ft.

Henderson County

McElreath & Suggett No. 1 T. L. Dean, C. M. Walters Sur., 1 mi. W of Athens. D.&A. 5,651 ft.

Texas Co. No. 1 R. L. Tarkington, W. K. Newell Sur., ½ mi. SE of outpost to Flag Lake pool. Top sd. 3,008½ ft.; comp.; 45,000,000 ft. gas.

Kaufman County

Sam Knoerr No. 1 J. B. Hunter, P. Walker Sur., 5 mi. S of Terrell. Drk.

W. S. McGee No. 1 Pritchett, J. Hendricks Sur., 7 mi. W of Mabank. S.D.; 3,104 ft.

J. F. McLaughlin No. 1 Wood-Nash, J. C. Cortez Sur., ¾ mi. SE of Scurry. Drk.

W. G. Martin No. 2 W. G. Martin, W. F. C. Butler Sur., 2½ mi. NE of Kemp. Drlg. 2,472 ft.

Lamar County

Dahl Bros. & Barr No. 2 McQuiston, R. Russell Sur., ½ mi. N of Paris. R.U.

Leon County

Lone Star Gasoline Co. No. 1 Steve Pate, D. J. Haskins Sur., 8 mi. SE of Buffalo gas area. Fsg. 4,226 ft.

T. J. Tucker No. 1 Same Vane, James Webb Sur., 4½ mi. SE of Keechi. S.D. 100 ft.

Wynne Drlg. Co. No. 1 H. L. Brown, Joseph Brown Sur., ¾ mi. NW of Keechi and on Sinclair Prairie farmout. Drlg. 3,134 ft.

Limestone County

Strowd Gas Co. No. 1 S. Adkins, A. Varella Sur., 1 mi. W of Groesbeck. S.D. 650 ft.

McLennan County

J. C. Kilgore No. 1 Tom Motis, R. D. Price Sur., 4 mi. E of town of West; shallow test. Loc.

Lisle Steele No. 1 C. H. Cherry, M. Martinez Sur., 4½ mi. SE of Waco. S.D. 1,300 ft.

Madison County

W. C. Holleman No. 1 D. C. Cannon, J. P. Phillips Sur., 7 mi. NW of Madisonville. S.D. 25 ft.

Rains County

McKinley & Hastings No. 1 McTaggert, B. Milder Sur., 1 mi. W of Emory. Loc.

Red River County

Bentley-Sheppard & Stevens No. 1 So. Pine Lbr. Co.; G. S. Parks sur.; 17 mi. N of Clarksville. S.D. 71 ft.

Daniels et al No. 1 J. J. Gaston, J. Guest Sur., 2 mi. S of Detroit. S.D. 1,025 ft.

Walters et al No. 1 Phamplin, W. Moore Sur., 3 mi. SE of Kanawha in NW part of county. S.D. 555 ft.

C. E. Whitehead No. 1 R. H. Ringwald, A. Moore Sur., 1 mi. NW of Manchester. S.D. 630 ft.

Rusk County

Drake Drlg. Co. No. 1 R. L. Needham, J. H. Chambers Sur., 3 mi. S of Laneville. M.I.M.

Smith County

Combest et al No. 1 Dora Kendall; J. Williams Sur., 1¼ mi. SW of Jamestown. S.D. 3,226 ft.

Van Zandt County

W. S. King No. 1 Edna W. Watson, M. G. Whitaker Sur., 5 mi. S of Grand Saline. S.D. 2,200 ft.

WEST CENTRAL TEXAS DISTRICT

Brown County

Hightower O. & R. Co. No. 1 Payne, sec. 31, H.&T.C. Sur. Drlg. 1,615 ft.

Whatley No. 1 Browder, C.T.R.R. Sur., Abst. 281. Drlg. 2,010 ft.

Callahan County

Dobbs Oil Co. No. 1 Finley, sec. 75, Bayland Orphans Home Ld. Drlg. 1,500 ft.

J. H. Howell No. 1 E. I. Vestal, 1,149 ft. E line, 1,000 ft. N line, Jesse Dyson Sur., 2 mi. NE Cross Plains. D.&A. 3,800 ft.

Johnson et al No. 1 B. E. Higgins, Sec. 39, D.&D. Sur., Abst. 886. Loc.

Coleman County

Garrett Oil Co. No. 1 W. S. Smith et al, 4 mi. SE of Coleman, J. Thiele Sur. D.&A. 2,318 ft.

Hoffman & Page No. 1 T. A. Drake, J. H. Woods Sur. No. 46. Drlg. 1,565 ft.

Lynn & Jordan No. 1 Eades, J. West Sur., 7 mi. SW of Santa Anna. S.D. 415 ft.

Bob Murray No. 1 Dibrell, H. Kigan Sur., near Camp Colorado. P.B. 2,840 ft.; old T.D. 2,865 ft.; S.D.

Comanche County

Compton No. 1 Griffin, Blk. 2, Comanche Co. Sch. Lds. Drlg. 2,470 ft.

Elmore No. 1 Moorman, sec. 37, D.&A. Sur., 3 mi. NE of Sipes Spgs. M.I.M.

Loraine No. 1 Haile, sec. 9, Blk. 3, H.&T.C. Sur. Drlg. 2,750 ft.

Sells Pet. Co. No. 1 Smith, sec. 12, Blk. 2, H.&T.C. Sur. Drlg. 2,750 ft.

Eastland County

Dobbs Oil Co. No. 1 Greer, J. E. Hardy Sur., Ellenburger test. Drlg. 1,700 ft.

Hickok P. & D. Co. No. 1 Penn, Sec. 468, S.P. Sur. Rig.

Hack Whiteside No. 1 A. K. Anderson, SE of Rising Star. Loc.

Erath County

McGee Dev. Co. No. 1 Till Robinson, Wm Ashworth Sur., 2 mi. SE of Desdemona T.D. 3,216 ft.

Wayne Chandler No. 1 Chandler, J. W. Moore Sur., Abst. 571. Drlg. 2,015 ft.

Fisher County

S. and D. Daube No. 1 Hardy, Sec. 49, Blk. 2, H.&T.C. Sur. Tstg. 3,359 ft.

Forest Dev. Co. No. 1 Morrow, sec. 48, Blk. 2, H.&T.C. Sur. W.O.C.

Owens-Snebold & A. C. Varner No. 1 J. H. Millsap, 3,500-ft. wildcat, 2 mi NW McCaulley, 330 SL 330 WL, sec 61-2, H.&T.C. Sur. Drlg. 2,550 ft.

T. G. Shaw Oil Corp. and Texas Co. No. 1 John Stribling, sec. 110, Blk 3, H.&T.C. Sur. S.D.; wtr. 4,440 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J. P. Bailey Sur. 51. S.D. 349 ft.

Haskell County

T. P. Coal & Oil Co. No. 1 Livengood, Pardue pool outpost. Prep. treat; T.D. 2,818 ft.

Fain-McGaha Oil Corp. No. 1 T. G. Hendrick, C W½ sec. 104, Indianola Ry. Sur. D.&A. 3,098 ft.

Indian States No. 1 Jones, Coryell Co. Sch. Lds. S.D.R. 3,833 ft.

Marland Drake No. 1 Cob, J. F. Benson Sur. No. 96. Loc.

Sawyer Drlg. Co. No. 1 A. J. Rowland Est., Sec. 5, Blk. 3, H.&T.C. Sur., 15 mi. E of Stamford. M.I.R.

W. A. Stiles et al No. 1 May Cook, Sec. 89, B.B.B.&C. Sur., 10 mi. W of Stamford; 6,000-ft. test. Loc.

Jones County

Brown Eagle Oil Co. No. 1 Haynes, sec. 191, Lemuel Andrews Sur. U.R. 1,750 ft.

Dunigan Bros. and Fred Hyer No. 1 Gaither, 4½ mi. N of Anson, sec. 38, B.B.B.&C. Sur. Drlg. 3,630 ft.

R. B. Farris No. 1 Chas. Donohoo, 220 ft. from S and E lines, N½ sec. 5, B.B.B. &C. Sur. S.D. 2,090 ft.

S. C. Herring No. 1 B. L. Ellis, 330 ft. fr. N and E lines, SE¼ sec. 8-15, T.&P. Sur. Loc.

Humble O. & R. Co. No. 1 Huddleston, sec. 49, Blk. 18, T.&P. Sur. Drlg. 2,710 ft.

King et al No. 1 Stover, D. H. Stover Sur. No. 7. S.D.O. 1,450 ft.

C. B. Lynn No. 1 C. P. Poe, L. Katz Lee Sur. No. 335. Cg. 3,132 ft.; S.S.G.

Montray & King No. 2 G. Martinez, Martinez Sur. No. 195. Drlg. 2,180 ft.

Rex Outlaw No. 1 M. A. Moore, Sec. 10, B.A.L. Sur. T.D. 2,002 ft.

Pet. Producers No. 1 McDuff, sec. 32, Blk. 15, T.&P. Sur. Tstg. 1,913 ft.

Providence Royalty Co. No. 1 Phillips Est., Subd. 43, Lge. 334, Harrison C. S.L. Sur. Loc.

S. B. Roberts Co. No. 1 Roy E. Prichard, 205 ft. fr. S L, 2,428 fr. E L, J. E. Cockrell Subdiv. 2, G. Martinez Sur. 195. Loc.

Sinclair Prairie No. 1 Williams, sec. 40, Blk. 18, T.&P. Sur. U.R. 2,010 ft.

Stiles et al No. 1 Cook, Sec. 89, B.B.B. &C. Sur., western part of county. Drlg. 895 ft.

Nolan County

Oyster, Harkrider et al No. 1 J. H. Withers, C SW¼ sec. 65-21, T.&P. Sur. Wildcat to drill 4,000 ft. S.D. 4,505 ft.

Chas. E. Peddicord No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. Drlg. 673 ft.

Union Oil Co. No. 1 J. D. Pepper, Sec. 51, Blk. 21, T.&P. Sur.; 5,000-ft. test, 6 mi. SW of Sweetwater. Loc.

Palo Pinto County

Goble-More Drlg. Co. No. 1 M. B. Costello, R. R. Williams Sur., Abst. 896. U.R. 1,500 ft.

Parker County

Brown-Gardner Bros. No. 1 Gilbert, T. &P. Sur., Abst 1958. S.D. 2,175 ft.

Glen Rose No. 1 H. D. Groves, SW¼ Sec. 350, T.&P. Sur. S.D. 605 ft.

Hollenback No. 1 McNay, T.&P. Sur. No. 203, Abst. 1366; 3,500-ft. test. M. I.R. 960 ft.

Richard Bradshaw No. 1 Horace Wilson, T.E.L. Sur. No. 2444, Abst. 1308. S.D.; T.A. 560 ft.

Shackelford County

Joe DeGrazier No. 1 Harbough, E cen. part of county, sec. 1,563, T.E.&L. Sur. 4,500-ft. test. Drlg. 3,220 ft.

Fox & Rudd No. 1 Shotwell, Sec. 59, B. A.L. Sur. Prep. P.B. 1,549 ft.; T.D. 1,600 ft.

R. H. Gordon & Frank Pethybridge No. 1 C. B. Snyder, 330 ft. fr. N and E lines, sec. 38, L.A.L. Sur., 4,500-ft. test. U.R. 3,445 ft.

J. G. Hammond No. 1 Coker, 1,620 ft. from S line and 1,020 ft. from W line, sec. 159, B.B.B.&C. Sur. Rng. 6-in. 4,280 ft.

Neff et al No. 1 Clausell, E½ Sec. 587, T.E.L. Sur. Loc.

Stephens County

Lone Star No. 1 E. H. Brooks, 400 ft. from S and W lines, NE 200 ac. of sec. 54-7, T.&P. Sur. Tstg. 2,000,000 ft. gas 3,723-27 ft.; jnkd. and abd. at 2,137 ft.

Lone Star No. 1 J. S. McKee, 660 ft. from N line, 660 ft. from W line, sec. 41-7, T.&P. Sur. Trying to S.O. wtr. 3,618 ft.

Taylor County

Charter O. & G. Co. and A. R. Forester No. 2 Frederickson, Guadalupe C.S.L. Sur., Sec. 120, 3 mi. N of View. Drlg. 688 ft.

T. M. Knoles No. 1 Bowles, Sec. 21, B. A.L. Sur. Drlg. 1,457 ft.

Throckmorton County

Beacon O. & R. Co. No. 1 Hawes Est., sec. 979, T.E.&L. Sur. Swbg. S.W. 4,070 ft.; T.D.

Jones & Stasney No. 1 C. T. Brockman, 330 ft. S line, 330 E line sec. 95, Comanche Indian Sur. T.D. 4,706½ ft.; est. 1,000 to 1,500 B.O.P.D.; acd. 4,711 ft.; ga. 145 B.O. 2 hrs.; trying to S.O. wtr.; T.D. 4,716 ft.; prep. D.D.

Mariand-Drake No. 1 Dickie Bros., center T.E.&L. Sur. 2226. S.D. 4,085 ft.

Stasney et al No. 1 Hunt, sec. 965, T. E.&L. Sur. U.R. 1,628 ft.

Target Drlg. Co. No. 1 E. W. Hunt, Col. Co. Sch. Lds. S.D.O. 5,022 ft.

NORTH TEXAS WILDCATS

Archer County

Helmerich & Payne et al No. 2 L. F. Wilson, Blk. 25, A.T.N.C.L. Sur. Drlg. deeper to 5,129 ft. and W.O.C.

Panhandle Ref. Co. et al No. 1 H. O. Pri-

(Continued on Page 114)

PERSONAL

M. E. FANNON, JR., chief clerk of the executive department of the Sinclair Refining Company in Tulsa, was called to Oklahoma City last week by the death of his father, M. E. Fannon, 73.

STANLEY McDONALD, graduate geologist of the Louisiana State University, has joined the Department of Conservation, following two years of experience with the Louisiana Geological Survey. He is stationed in Cotton Valley.

FRANK H. SHAFFER, Lubbock, Tex., scout for the Texas Company and son of the late Oscar Shaffer, veteran oil scout of that organization, has been transferred to Mattoon, Ill. Mr. Shaffer's work has been that of scouting the seismograph exploratory parties. He spent part of 1936 and 1937 in southern Illinois.

H. D. EASTON, geologist of Shreveport, La., is on vacation in Noel, Mo., with MRS. EASTON.

RALPH FILMORE, young geologist from University of Wichita, has joined the staff of Anderson-Prichard Oil Corporation, succeeding MARVIN PITTS who is in Arizona for his health. Mr. Filmore formerly was on the staff of the Amerada Petroleum Corporation.

W. P. LUSE, president of the W. P. Luse Petroleum Company and the Luse & Fosdick Drilling Company, Dallas, Tex., has returned home after a two months' cruise which took him and MRS. LUSE to Australia. They visited Honolulu, Pago Pago, Suva, Auckland, Sydney, and Melbourne.

O. T. MOORE, former manager of the natural gas division of the Arkansas-Louisiana Gas Company at Gilmer, Tex., has been transferred to Magnolia, Ark., taking charge of the new territory. He was succeeded by J. LINWOOD COLLINS, formerly in charge of the Greenwood, La., district.

JOHN H. KANE, who recently retired as executive vice president of Phillips Petroleum Company; ALF M. LANDON, 1936 presidential nominee and independent oil man, and ARTHUR CAPPER, United States senator from Kansas, were special guests at a buffet lawn party given for directors of the Skelly Oil Company last Thursday by J. C. NICHOLS, real estate operator, in Kansas City, Mo. At the business meeting of the directors in that city earlier in the day, W. G. SKELLY, president, reported that 1938 had been a better year than 1937 for the company. "This still is America," said Mr. Skelly. "We shall get over our jitters."

FRED SMITH, division sales manager of the Mid-Continent Petroleum Corporation, is back in Tulsa from his camp on Lake of the Ozarks, Missouri, where he and MRS. SMITH spent their vacation.

C. W. BREUKELMAN, geologist and petroleum engineer of the Shell Oil Company, arrived on the Pacific Coast from Maracaibo, Venezuela, last week and will spend his vacation in southern California.

FREDERICK G. CLAPP, consulting geologist, who has been traveling in the Orient, was in Kabul, Afghanistan, early in August, returning then to Teheran, Persia, according to word received at his office in New York. Mr. Clapp wrote that he hoped to be back home this month.

SIR PETER NORTON-GRIFFITHS, of London, an official of the Shell Petroleum Corporation, is in this country making a survey of Shell properties. He was visiting points in the Southwest last week. With T. E. SWIGART, vice president, of Houston, Tex., he spent one day making a swing through upper Gulf Coast oil fields.

GEORGE D. LOCKE, retired vice president of the Barnsdall Oil Company and former president of the Western Petroleum Refiners Association, has bought a small ranch at Rancho Santa Fe, Calif., and is devoting his attention to growing avocados. He was actuated by the condition of MRS. LOCKE'S health. She is reported to be showing marked improvement in the climate of her new home. Among others who have country estates in the neighborhood are CHARLES F. MEYER, retired president of the Standard Oil Company of New York; MRS. JOHN H. MARKHAM, JR., whose late husband was an independent oil producer and banker of Tulsa, and many persons famous in the motion picture world.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

A new pool is opened 75 miles west of Bartlesville, Okla. It will be known as the Newkirk pool.

After nine years in Rumania as assistant general manager of Romano-Americano Oil Company, R. E. Sullivan is back in the United States. Balkan wars have hampered the operation of Rumanian fields and refineries.

Texas produced 1,282,077 barrels of oil in July and Louisiana 1,209,127 barrels. Texas' daily average was 41,357 barrels and that of Louisiana 39,004 barrels.

Kentucky produces 1,811 barrels of oil per day.

20 YEARS AGO

The discovery of big production in the Wilcox sand in Okmulgee County, Oklahoma, has changed the picture in that county, and hereafter few wells will be stopped before testing the deep horizon.

A. C. Bedford, chairman of the National Petroleum War Service Committee, appeals to employes of the oil and natural gas industries to claim deferred classification under the new draft law for all men essential to the maintenance of the industry on an efficient war basis.

Joseph Seep resigns as president of the Central Kentucky Natural Gas Company. He will remain as chairman of the board. John B. Tonkin is the new president.

10 YEARS AGO

A portion of the Burbank field in Oklahoma will be repressured with gas by four of the leading companies operating therein, Gypsy, Sinclair, Phillips and Carter.

H. H. Hill, chief petroleum engineer of the U. S. Bureau of Mines, has resigned to go with the Standard Oil Company of New York.

Memphis Natural Gas Company will lay an 18-inch gas pipe line from the Monroe gas field in Louisiana to the city of Memphis, Tenn., 212 miles distant.

JAY A. PIGGOTT, land man in the new Illinois fields for Phillips Petroleum Company, is in a Mattoon hospital recovering from an illness reported as serious.

FLOYD MILLER, geologist with the Oliphant Oil Corporation of Shreveport, La., accompanied by MRS. MILLER, is spending a three weeks' vacation in Mexico City and other parts of southern Mexico.

CARL BARKER, St. Louis, Mo., public relations manager for the Shell Petroleum Corporation, has resigned as chairman of the Missouri Petroleum Industries Committee owing to pressure of other business.

S. P. REDFERN, safety director of the Globe Oil & Refining Company in Wichita, Kans., has been elected president of the Munsch National First Aid Instructors Association, an organization sponsored by the safety section of the U. S. Bureau of Mines.

H. S. DICKSON, now director of retail sales for the Derby Oil Company, Wichita, Kans., was formerly Kansas division manager for the Skelly Oil Company, in charge of retail sales. He was with Skelly 10 years. D. C. FLEMING, formerly manager of the Des Moines, Iowa, division, will replace Mr. Dickson.

E. A. KODYEN, recently appointed inspector for the oil fields of the Australian Commonwealth, New Guinea and Papua, has arrived, with MRS. KODYEN, at Canberra, Australia, from Petrolia, Ontario, Canada. They sailed by way of Honolulu, Fiji Islands, and New Zealand. Immediately on his arrival at Canberra, Mr. Kodyen left with the oil advisory committee on a tour of inspection of the Australian fields.

PARAGRAPHS

GEORGE R. ELLIOTT, petroleum engineer for the Phillips Petroleum Company and for the past two years stationed in the production department of the Shreveport, La., division office, has been transferred to the Bartlesville, Okla., office. Mr. Elliott was formerly a government engineer in Alberta, Canada, and he made an extensive study of the gas-cap phase of Turner Valley production.

RONALD E. BOYNTON, Topeka, former attorney general of Kansas; ROBERT MASON, McPherson, Kans., graduate of the University of Oklahoma, and O. R. STITES, Emporia, Kans., former attorney for the Federal Trade Commission, have joined the legal staff of the Cities Service Company in Bartlesville, Okla., their service starting September 15. GLENN CLARK recently retired from Cities Service to go to Kansas City as general attorney for the Panhandle Eastern Pipe Line Company, and JAMES STANLEY went to New York as chief counsel for the Brewers Association. D. A. CRIPPS and S. N. HAWKS recently retired from the staff.

WILLIAM R. THAWLEY, chief scout of the Gypsy division, Gulf Oil Corporation, in Tulsa, has gone to Washington, D. C., and Maryland points for his annual vacation.

HARVEY LOOMIS, geologist, formerly of Fort Worth, Tex., is in charge of a geological party working for Socony-Vacuum Oil Company, Inc., in New Guinea. His headquarters are in Madang.

DANA MILLER, of New York, vice president of the Esperanza Petroleum Company, left last week for a Caribbean cruise, accompanied by MRS. MILLER, who is a concert singer under the stage name of Madame Elba.

FRANK S. PERRY, in the Standard Oil Company of New Jersey legal department, will retire this month after 31 years' service. Mr. Perry joined the Standard in 1907 under the sponsorship of CHARLES P. THURSTON, at that time connected with the old real estate and tax department.

STEPHENS J. TYDEMAN, superintendent of the Standard Oil Company of New Jersey's Bayonne refinery, has retired after serving the company since 1896 with slight interruptions for completion of his education and for military service during the World War. After working six years for the company in the purchasing department he entered Cornell University. Graduating in 1906 with a mechanical engineering degree, he spent the next four years in shipbuilding and construction work. He returned to the company in 1910 and was appointed foreman of the wax refinery in 1911. He served in the Navy during the war and returned to become superintendent.

CHARLES W. GRIMES, Tulsa oil and natural gasoline operator, is back from a vacation trip which took him and MRS. GRIMES to Fort Churchill, Manitoba, on Hudson Bay, and he has what looks like the season's winning fish story in the it-got-away class. With four others, including an Indian guide, he was out in the bay in a 20-foot motor-powered canoe, when the guide harpooned a white whale, estimated to have weighed 1,200 pounds. For 20 minutes the canoe was whisked along the surface, the guide skillfully keeping the craft from upsetting, but ready instantly to cut the towline in an emergency. When opportunity offered, one of the party shot at the whale with a rifle, but the bullet struck the harpoon, loosening it, and the captive escaped. A vacationist in another boat got some snapshots of Mr. Grimes and his companions being taken for a ride.

FRED O'BRIEN, independent operator in the Huntington Beach, Torrance, and Long Beach fields of California, has been elected a director of the Sierra Trading Company, which maintains offices in Los Angeles and is drilling in the Lomita district.

CARL CLEMONS, assistant drilling superintendent in the Gulf Coast territory for the Gulf Oil Corporation, returned last week to Houston from a three weeks' vacation tour by automobile in Tennessee and North Carolina. Accompanying him were his wife and his mother, MRS. W. H. CLEMONS. The trip, which covered 3,000 miles, included a visit to Mr. Clemons' birthplace in Tennessee, the first since he left it as a five-year-old boy and his mother's first return to the old home since going to Texas.

Has Broad Background

Lloyd G. Owen, who will become general counsel for the Carter Oil Company November 1, has the sort of background that equips a man for the intricacies of a big oil organization's legal department. After getting his A.B. in 1905 at Ohio State University and finishing his law course at that institution in 1908 he practiced law for a year in Columbus, Ohio. In 1909 he went to Bartlesville, Okla., where he was employed by the law firm Craver & Foster till 1912, in which year he became associated with James A. Veasey and J. P. O'Meara. Mr. Veasey and Mr. O'Meara moved to Tulsa the next year, whereupon Mr. Owen joined H. H. Montgomery in the practice of law. That association continued till 1915, when Mr. Owen himself moved to Tulsa, entering the service of the Carter Oil Company as assistant to Mr. Veasey, who had become general counsel.

LLOYD G. OWEN

Mr. Owen left the Carter in 1919 and for five years was engaged in law practice in Dallas, Tex., and Tulsa. In 1924 he rejoined the Carter, being made first assistant to Mr. Veasey, which post he has held continuously since then. It was announced last week that Mr. Veasey would retire and that Mr. Owen, who has handled all phases of the company's legal business, would succeed him.

Mr. Owen married Miss Marie Davis, of Delaware, Ohio. While in Bartlesville he served as United Stated Commissioner and as assistant county attorney.

C. E. HYDE, independent oil operator and vice president of the Fort Worth (Tex.) Geological Society, is back in his office after spending several weeks in Colorado.

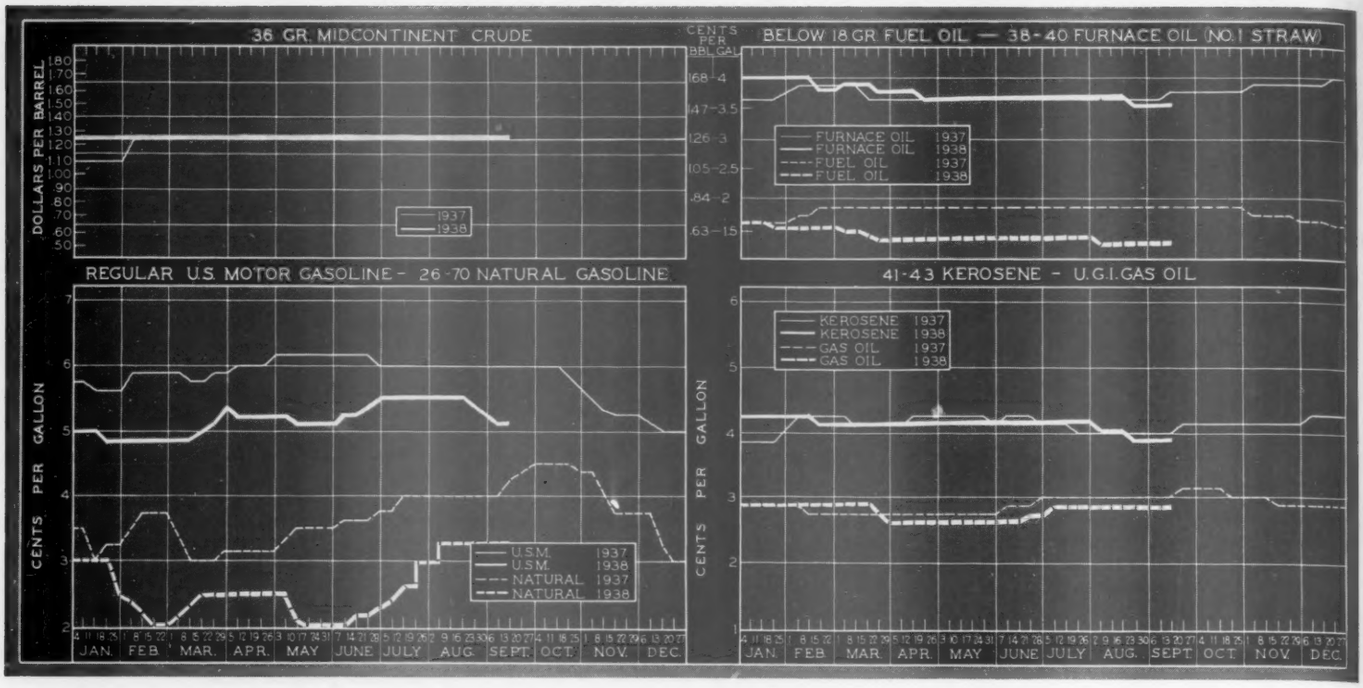
J. W. SELBY, chief scout for the Shell Petroleum Corporation in Houston, Tex., has returned to his desk after a two weeks' vacation which he spent visiting the various districts in his territory.

JOSEPH BOYLE, manager of the Anglo-Saxon Petroleum Company, Ltd., arrived in New York a few days ago from London. He expects to stay in this country till the latter part of September.

IRA O. BROWN, geologist and district land man for the Ohio Oil Company in San Antonio, Tex., has resigned to operate as an independent. He will continue to maintain headquarters in San Antonio.

T. M. HUGHES, engineer for the Arkansas-Louisiana Gas Company, has been named acting superintendent of installation and service. He continues in charge of the company's odorization program in the Arkansas area served by the company.

LeROY G. SNOW, formerly district engineer for the U. S. Geological Survey in Thermopolis, Wyo., has been promoted to deputy supervisor for the survey in Casper, Wyo. He succeeds J. R. REEVE, recently advanced to supervisor of the Mid-Continent division. J. R. SCHWABROW, formerly associate engineer in the Casper office, has been transferred to Thermopolis as district engineer. B. H. MURPHY, formerly associate petroleum engineer working out of Thermopolis, has been transferred to the Casper headquarters as petroleum engineer.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Group 3 Refinery Market Continues to Sag, With Few Encouraging Signs

By T. F. SMILEY

If Group 3 refiners saw anything to feel particularly good over this week they were keeping it to themselves. Neither motor fuel nor natural gasoline had crawled out of the hole into which they slid in mid-August. The heating oils were doing fairly well. Lubricants were trying hard to get started upward, without much success.

Concerned Over Naturals

Natural gasoline manufacturers, frankly concerned over a market in which their product is barely holding its own instead of climbing nimbly to higher levels, as it should under normal conditions at this season, point to several circumstances which have brought worry to this division. The country's huge stocks of fuel oils, far removed as they may seem from the fortunes of the naturals, happen to have distinct relationship. In former years production of fuel oils was more nearly in balance with demand; so refiners used their light ends—butane, propane, and other refinery gases—as fuel for the stills, and they disposed of their burning oils in the market. This year refiners have piled up inventories of burning oils which may turn out to be excessive. So instead of using the refinery light ends as fuel they are utilizing them to provide volatility in their gasoline, and they are using fuel oils from their swollen inventories under the stills. The demand for natural gasoline thus has been reduced in direct proportion as refinery gases have been condensed and employed in the manufacture of motor fuel by the refiner himself.

The prolonged warm weather on the Atlantic Coast, delaying the need for gasoline of fall or winter specifications, has had a marked influence on the natural gasoline market. Under ordinary conditions shipments of cold-weather gasoline would have been moving from Gulf ports to the East Coast. Instead, this material has backed up at Gulf refineries and terminals. So long as this condition prevails natural gasoline manufacturers will send no shipments south. Things seemed to be looking a little more cheerful this week, however, and it was predicted that by the first week in October Gulf Coast refiners would be in the market for natural again.

The action taken by two major refiners last month in increasing the volatility of their motor fuel has been followed by others, until now it is said virtually all the larger companies are offering motorists more pep for the engine. This practice, a phase of the octane race in which leading brands of gasoline are engaged, should have a perceptible effect on the demand for naturals.

Refined Oil Market Barometer

Motor fuel exhibits increasing softness with close of the vacation season. Heating oils, particularly the Nos. 2 and 3 grades, firm as fall buying rises; but low-gravity fuels continue sluggish. Naturals fail to show strength expected. Pickup looked for when certain unusual conditions have been remedied. Pennsylvania lubricants steady, and Mid-Continent products show better tone.

MID-CONTINENT. Gasoline weak. Naturals unsteady. Light fuels firm. Wax strong.

EAST COAST. Gasoline softer. Kerosene and light domestic fuels improving.

GULF COAST. Gasoline and kerosene weak. Fuel oils firm.

CALIFORNIA. General market soft. Independent marketers trying to stabilize prices.

PENNSYLVANIA. Neutrals, bright stocks firm. No ill effects from recent crude price cut.

CHICAGO. Gasoline unsettled, with offerings plentiful. Kerosene somewhat firmer.

Labor Day Consumption Heavy

Consumption of gasoline over the Labor Day triple holiday, according to available information, was exceptionally heavy. Contributing to it were not only week-end pleasure-seekers, but thousands of vacationists returning to their homes and streams of students going back to school. A mild lift in jobber requirements indicated depletion of stocks. There was no marked rise in demand, however, and sales managers saw faint encouragement in near-term prospects. It is declared that refining operations at current returns are unprofitable and that a little further sagging of prices would mean actual loss and dipping into capital. This inevitably would cause many of the smaller independent refiners to close their plants—in some cases temporarily, in others perhaps permanently.

Scarcity of No. 2 and 3 heating oils, both straw and dark, was reported. Prime white, range oil, and kerosene were only moderately active, but refiners were looking for an upturn in these grades too within a week or two. Quotations on neutrals and bright stocks did not stir, and the market continued unsatisfactory. Movement was a little better though, and refiners expressed hope that as the Pennsylvania lubricant market improves, the Mid-Continent products will get into better position. Wax was strong at unchanged prices.

Eastern Gasoline Market Softer; Domestic Fuels Are Firmer

By H. STANLEY NORMAN

NEW YORK, Sept. 13.—Softening of the eastern gasoline market expected by many with the passing of Labor Day developed last week. Market leaders, including Socony-Vacuum Oil Co., Inc., and Standard Oil Co. of New Jersey, moved September 10 to lower market levels which had been in unofficial existence in numerous directions for nearly two weeks.

Kerosene and light domestic fuel oils moved in reversal to gasoline market trends as early morning temperatures in New England and upper New York dipped into the high 30's and 40's for the first time this fall.

Socony-Vacuum lowered tankcar prices on 65-octane motor fuel in New York a quarter of a cent while the same product was cut a half cent per gallon in New England and northern New York. In western New York, Socony-Vacuum lowered tankcar prices four-tenths of a cent. Tankwagon prices were unchanged in New York City, but were cut one-half cent per gallon in most other large cities of the state and in New England. The changes were made effective September 9.

Standard Oil Co. of New Jersey and its marketing subsidiaries in this territory, Colonial Beacon and Standard of Pennsylvania, lowered 65-octane gasoline one-fourth of a cent per gallon at Bayonne, Baltimore and at Philadelphia, making the new tankcar quotation for this class of motor fuel 6½ cents per gallon.

Reductions by the market leaders were in recognition of an increasing volume of business transacted at the new figures over the past two or three weeks. It was reported in the trade that barge deliveries of 65-octane gasoline may be obtained in the New York harbor district at 6 cents per gallon, although a good portion is currently moving at 6¼ cents to 6⅜ cents per gallon.

Incomplete market reports indicate that motor fuel consumption failed to equal expectations in certain key northeastern areas over the triple Labor Day week-end holiday. Main highway arteries failed to reflect the volume of travel enjoyed in 1937 and reports from Albany show the first half of 1938 was a disappointing consumption period in New York state.

Taxable motor fuel sales in New York for June totaled 153,832,215 gallons, a decrease of 2,450,359 gallons as compared with June, 1937. June sales of taxable and nontaxable motor fuel totaled 164,356,693 gallons, a decrease of 1,392,699 gallons from June, 1937. Taxable fuel sold during the first six months of 1938 totaled 764,742,697 gallons, a decline of 16,298,859 gallons from last year's figures.

Occasional reports were heard that higher-octane gasoline prices were being shaded by a quarter to a half cent per gallon in the tankcar and barge market, but this development had not been localized and could not be confirmed. The drift into lower marketing ground for the low-octane motor fuel appeared inevitable with numerous suppliers on the eastern seaboard offering material to dealers at figures even below those fixed by the large refiners at the end of last week. The marketing problem now becomes a matter of preventing further declines as motoring is expected to taper off even to a greater extent during the next 30 days. The one ray of hope for a better than normal fall motoring season rests in the early introduction of new automobile models. One of the leading makers, Chrysler, placed its 1939 Plymouth models on display in New York last week and the showrooms indicated that interest of the public is keen. One of the large independent distributors on the East Coast advanced kerosene tankcar prices a quarter of a cent per gallon at the close of last week to 5 cents per gallon. Several suppliers have been holding kerosene stocks at 5 cents to the tankcar trade for several weeks, however, so the advance by Hartol Products Corp. actually represented an advance of the market's lower range.

Light fuel oils of all classes have experienced improved demand during the past week as temperatures dipped to points requiring early morning and late evening burner operation in northern New York and in all New England states north of Connecticut. There has been no material change in the domestic fuel oil market, but products are more difficult to locate at concession prices. Most sellers are quoting 4¼ cents per gallon in tankcars on No. 2 and No. 3 fuel oil. Orders are reported at increasing volume for early fall heating requirements and statistics on oil burner sales for July, released last week by the Bureau of the Census, indicate an upturn in shipments for the fall season.

Shipments of oil burners in July totaled 10,689 units, compared to 9,550 for June. The rate is still considerably below that established last year, however, when 16,404 units were shipped in July. Through the first seven months of 1938 oil burner shipments in the United States, with only a small per cent of the manufacturing capacity unaccounted for, total 56,032 units compared to 93,746 for the same period in 1937. Despite the fact that light fuel oil stocks are considerably higher this fall than last year optimism over market prospects is found in most directions. Burner sales are expected to improve for a month or two bringing the peak of the consuming season in December, January and February more nearly in line with the records set in 1937.

Demand for heavy fuel oil is also at an improved level and the New York harbor price of 95 cents per barrel for Grade C bunker fuel appears to be on sound footing. There is less inclination on the part of Gulf Coast refiners to shade prices on heavy fuels due, no doubt, to a desire to watch developments in the manufacturing industry which have shown an upturn even in the past 30 days.

Refiners in western Pennsylvania reported no reaction from the crude price cut there two weeks ago. The demand for neutral and bright stock continues at a satisfactory rate with prices firm to strong. Several plants are sold up on September production and have advised dealers inquiring for stocks that supplies will not be available until October. The drive for changing to winter grades of lubricating oil is near and jobbers have purchased rather liberally in the neutral and bright stock markets during the past two weeks and at the present time are ordering against previously placed contracts.

Another week passed without reported activity in the Gulf Coast export market. Feelers continue to reach refiners, but firm offers to buy are scarce. Part of the current inactivity in the export market is due, no doubt, to the pressing need of Mexico to move products. Bartering deals with Germany and Italy, accepted by Mexico in certain instances in absence of cash offers, are closing some of the open export markets to American suppliers.

Marketers in the northeastern section of the country are paying

(Continued on Page 112)

A. P. I. Weekly Refinery Statistics

Week Ending September 10, 1938

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	471,000	19,631,000	15,098,000
Appalachian	85.9	103,000	2,988,000	976,000
Indiana, Illinois, and Kentucky	89.0	420,000	10,550,000	9,338,000
Oklahoma, Kansas, and Missouri	81.6	274,000	6,413,000	4,485,000
Inland Texas	50.3	118,000	1,732,000	1,967,000
Texas Gulf	88.9	766,000	10,156,000	13,742,000
Louisiana Gulf	97.3	142,000	2,084,000	3,262,000
North Louisiana and Arkansas	55.0	44,000	519,000	879,000
Rocky Mountains	54.2	43,000	1,219,000	838,000
California	90.0	528,000	12,018,000	95,439,000
Total reported	85.5	2,909,000	67,310,000	146,024,000
Estimated unreported	.....	326,000	3,550,000	3,080,000
*Estimated total	.....	3,235,000	70,860,000	149,104,000
*Estimated total previous week	.....	3,195,000	70,514,000	147,646,000
*September 11, 1937	.....	3,455,000	66,456,000	114,666,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending September 3, 1938	284,919,000 barrels
Week ending August 27, 1938	285,029,000 barrels
Week ending September 4, 1937	310,417,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of September 13, 1938

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dlr.	Inc. tax	tank-wag.
Chicago, Ill.	15.6	13.6	4.0	10.5
Decatur	15.6	14.1	4.0	10.5
Joliet	15.6	14.1	4.0	10.5
Peoria	15.6	14.1	4.0	10.5
Quincy	15.4	13.9	4.0	10.3
Davenport, Ia.	15.6	14.1	4.0	‡10.5
Des Moines	15.4	13.9	4.0	‡10.3
Mason City	15.8	14.3	4.0	‡10.7
Duluth, Minn.	17.4	15.9	5.0	11.3
Mankato	17.0	15.5	5.0	10.9
Minneapolis	17.0	15.5	5.0	10.9
LaCrosse, Wis.	17.0	15.5	5.0	10.9
Green Bay	17.4	15.9	5.0	10.3
Milwaukee	16.8	15.3	5.0	10.7
Detroit, Mich.	14.3	12.8	4.0	9.0
Grand Rapids	14.8	13.8	4.0	9.7
Saginaw	16.3	14.8	4.0	9.3
Evansville, Ind.	17.1	15.6	5.0	†11.0
Indianapolis	17.3	15.8	5.0	†10.0
South Bend	17.6	16.1	5.0	†9.0
Fargo, N. Dak.	17.2	15.7	4.0	12.1
Minot	18.5	17.0	4.0	13.4
Huron, S. Dak.	17.5	16.0	5.0	11.4
Kans. City, Mo.*	14.9	13.4	4.0	8.5
St. Louis*	15.2	13.7	4.0	10.1
St. Joseph*	14.9	13.4	4.0	9.8
Wichita, Kans.	14.4	10.6	4.0	7.8

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective August 1, 1938, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8.5 cents; 150 gallons and over, 8 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex furnace oil, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex grade A, 1-399 gallons, 5 cents; 400 gallons and over, 4 cents. Stanolex grade B, 1-799, gallons 5 cents; 800 gallons and over, 4 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank wag.
Atl'tic City, N. J.	13.4	11.4	4.0	8.0
Newark	13.4	11.4	4.0	8.0
Annapolis, Md.	14.85	13.35	5.0	9.5
Baltimore	14.25	12.75	5.0	9.0
Cumberland	16.65	14.15	5.0	10.0
Wash'g'n, D. C.	12.5	11.0	3.0	9.5
Danville, Va.	16.95	14.45	6.0	12.9
Norfolk	15.75	13.25	6.0	11.5
Petersburg	16.05	13.55	6.0	11.7
Richmond	16.05	13.55	6.0	11.7
Roanoke	17.25	14.75	6.0	12.9
Charles'n, W. V.	17.05	14.55	6.0	12.6
Parkersburg	15.35	13.85	6.0	11.2
Wheeling	16.25	14.85	6.0	12.2
Charlotte, N. C.	18.65	16.15	7.0	12.1
Hickory	19.15	16.65	7.0	12.5
Mt. Airy	18.95	16.45	7.0	12.3
Raleigh	18.25	15.75	7.0	11.6
Salisbury	18.75	16.25	7.0	12.2
Charleston, S. C.	17.25	14.75	7.0	10.6
Columbia	18.25	15.75	7.0	11.6
Spartanburg	18.95	16.45	7.0	12.4

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be the equivalent to the dealer price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank-wag.	Net dlr.	Inc. tax	tank-wag.
Atlanta, Ga.	19.0	16.0	7.0	12.0
Augusta	19.5	16.5	7.0	8.0
Macon	19.5	16.5	7.0	11.5
Savannah	19.0	16.0	7.0	10.0
Birm'ham, Ala.	21.5	18.5	8.0	12.0
Mobile	21.5	18.5	9.0	9.0
Montgomery	21.5	19.5	9.0	10.0
Jackson, Miss.	19.5	16.5	7.0	10.0
Vicksburg	20.0	17.0	7.0	9.5
Jacks'ville, Fla.	18.0	15.0	8.0	8.0
Miami	20.5	17.5	8.0	9.0
Pensacola	21.0	18.0	9.0	10.0
Tampa	18.0	15.0	8.0	8.5
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	18.0	15.0	6.0	10.5
Louisville	19.0	16.0	6.0	10.0
Paducah	16.5	13.5	6.0	10.0

*Includes 1-cent state tax.

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price. Effective June 4, 1938, 2 cents per gallons discount eliminated from all kerosene markets in Mississippi, Alabama, Georgia, and Florida, markets being reduced correspondingly to a net basis.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Dealer	Inc. tax	tank-wag.
Denver, Colo.	15.5	5.0	11.5
Grand Junction	19.0	5.0	15.0
Pueblo	16.5	5.0	10.5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	13.0	5.0	13.0
Butte, Mont.	19.5	6.0	15.5
Billings	19.0	6.0	13.0
Helena	20.0	6.0	15.5
Great Falls	19.0	6.0	15.5
Salt Lake City, Utah	17.0	5.0	16.0
Twin Falls, Idaho	21.0	6.0	18.0
Boise	21.5	6.0	18.0
Albuquerque, N. M.	17.5	*6.5	12.0

*Includes city tax of .5 cent.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank-wag. con'r.	Di-vided dlr.	Inc. tax	tank-wag.
Ohio points	16.5	15.5	5.0	*13.0

*Includes state tax of 1 cent.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	T-wag. dealer	T'car consr.	Inc. tax	tank wag.
Albany	14.3	12.3	5.0	9.0
*Met. N. Y.:				
M'htt'n., Bronx	13.4	12.25	5.0	8.75
Staten Island	13.4	12.25	5.0	8.75
Q'ns. & Bklyn.	13.4	12.25	5.0	8.75
Buffalo	14.1	13.1	5.0	7.5
Rochester	15.0	13.2	5.0	8.5
Syracuse	14.0	12.9	5.0	9.0
Boston, Mass.	12.5	11.0	4.0	8.0
Portland, Me.	14.0	12.25	5.0	8.75
Manch'ter, N. H.	14.5	12.8	5.0	8.5
Burlington, Vt.	14.7	12.65	5.0	9.5

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon prices at delivery point.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax.	tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	23.0	24.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

*Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank-wag.	Dlr.	Inc. tax	tank-wag.
Omaha	18.0	16.5	6.0	10.8
McCook	17.5	16.5	6.0	10.0
Norfolk	18.4	14.9	6.0	11.2
North Platte	18.4	15.4	6.0	11.0
Scotts Bluff	19.5	14.4	6.0	12.3

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank-wag.
N. Orleans, La.	19.75	17.25	*10.0	†13.5
Baton Rouge	17.75	15.25	8.0	*10.5
Alexandria	17.75	15.25	8.0	12.5
Lafayette	18.0	15.5	8.0	12.5
Lake Charles	17.75	15.25	8.0	12.5
Shreveport	16.5	14.0	8.0	11.0
Knoxville, Tenn.	21.0	18.5	8.0	14.5
Memphis	19.0	16.5	8.0	12.5
Chattanooga	20.5	18.0	8.0	14.0
Nashville	20.0	17.5	8.0	13.5
Bristol	19.0	18.5	8.0	14.5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon. Kerosene prices include 1-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank-wag.
Philadel'hia, Pa.	13.75	12.25	5.0	10.0
Pittsburgh	15.0	13.0	5.0	10.5
Allentown	14.25	12.75	5.0	10.5
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13.0	5.0	10.5
Altoona	15.0	13.0	5.0	10.5
Dover, Del.	13.5	....	5.0	10.5
Wilmington	12.5	....	5.0	9.75
Springf'ld, Mass.	13.5	....	4.0	8.0
Worcester	13.0	....	4.0	8.5
Hartford, Conn.	13.6	....	4.0	7.0
New Haven	13.5	....	4.0	7.0
Providence, R. I.	13.0	....	4.0	8.0

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Oklahoma and Arkansas

CONTINENTAL OIL CO

	Gasoline		Kero.
	Dealer	Inc. tax	tank-wag.
Muskogee, Okla.	14.5	5.0	7.5
Oklahoma City	13.5	5.0	7.5
Tulsa	12.0	5.0	7.5
Ft. Smith, Ark.	14.75	5.0	7.5
Little Rock	17.25	7.5	8.0
Texarkana	14.0	5.0	8.0

Texas

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax.	tank-wag.
Dallas, Tex.	14.0	18.0	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	13.5	17.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N. S.	24.5	10.0	18.5
St. John, N. B.	24.5	10.0	18.5
Montreal, Que.	21.0	6.0	17.5
Toronto, Ont.	22.0	6.0	17.0
Hamilton, Ont.	22.0	6.0	17.0
Winnipeg, Man.	27.5	7.0	20.7
Brandon, Man.	28.1	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. of Louisiana July 8 reduced tank-wagon gasoline in Bristol 1.25 cents; July 14, reduced tank-wagon gasoline 1 cent, consumer tankcar gasoline .25 cent; August 31, reduced tank-wagon kerosene .5 cent.

Socony-Vacuum Oil Co., Inc., September 9 reduced gasoline prices as follows: Albany, tank-wagon and tankcar consumer .5 cent; metropolitan New York, tankcar consumer .25 cent; Buffalo, tank-wagon .4 cent and tankcar consumer .3 cent; Rochester, tank-wagon and tankcar consumer .3 cent; Syracuse, tank-wagon .5 cent and tankcar consumer .2 cent; Boston, tank-wagon and tankcar consumer .5 cent; Portland, tank-wagon 1 cent and tankcar consumer .5 cent; Manchester, tank-wagon and tankcar consumer .5 cent; Burlington, tank-wagon .7 cent and tankcar .85 cent.

Standard Oil Co. (Nebraska) September 9 reduced dealer gasoline at Norfolk 2 cents.

New York Market

(Continued from Page 111)

strict attention to the Texas proration issue which last week moved nearer a showdown by the filing of a suit to test authority of the Railroad Commission in ordering a five-day production week in East Texas. The possibility that the more rigid regulation may be outlawed by an adverse court decision would nullify much of the progress to stability apparent in the past few days.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of September 13, 1938

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below	.04¼	.04½
63-66 octane	.04⅜	.04¾
67-69 octane	.04⅞	.05
70-72 octane (regular)	.05⅛	.05⅜
60-62 400 grades:		
62 oct. and below	.04¼	.04½
63-66 octane	.04⅜	.04⅞
67-69 octane	.04⅞	.05⅛
70-72 octane (regular)	.05⅛	.05⅜
64-66 375	.04⅜	.04⅞
68-70 360	.04⅞	.05

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04¼	.04½
63-66 octane	.04⅜	.04¾
67-69 octane	.04⅞	.05
70-72 octane (regular)	.05⅛	.05⅜
60-62 400	.04¼	.04½
64-66 375	.04⅜	.04⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:	
62 octane and below	.04¾
63-66 octane	.05⅛
67-69 octane	.05¼
70-72 octane (regular)	.05¾

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below	.04⅞	.05
67-69 octane		.05½

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04¾	.04⅝
63-66 octane	.04⅝	.04¾
67-69 octane	.04⅞	.05
70-72 octane	.05⅛	.05⅜
60-62 400 grades:		
62 octane and below	.04¾	.04⅝
63-66 octane	.04⅝	.04¾
67-69 octane	.04⅞	.05
70-72 octane	.05⅛	.05⅜
64-66 375	.04⅝	.04⅞
68-70 360	.04⅞	.05

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.04¾	.05⅜
65 octane	.06¾	.07
68-70 octane	.07	.07¼

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06½	.08
58-60 400, 65 oct. and higher	.07½	.09

EAST COAST (domestic)—

U. S. Motor, 60-64.9 octane:		
New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Boston	.06¼	.06½
Baltimore	.06	.06¼
Charleston, S. C.	.06¾	.07
U. S. Motor, 65 and above:		
*New York (Bayonne)	.06½	.06¾
Philadelphia	.06½	.06¾
Boston	.06½	.06¾
Baltimore	.06½	.06¾
Charleston, S. C.	.07	.07¼

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:	
Below 60 octane	.04¾
60-64.9	.04¾
65 octane and higher	.05⅛
68-70	.05⅜

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¾	.04⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03¼
Grade 18-55	.03⅝	.03¾

NORTH TEXAS—

Grade 26-70		.03¼
Grade 18-55	.03⅝	.03¾

CALIFORNIA—

75-85 375-390	.06¼	.07

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.03½

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03⅞	.04
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.04⅛	.04¼
46-48 gr., 210-230 l.b.p., 480 max., e.p.	.04½	.04¾

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅞	.04⅛
42-44	.04⅛	.04⅜

NORTH TEXAS—

41-43	.03⅞	.04⅛

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04⅛	.04⅜

ARKANSAS (Ark. and N. La. del.)—

41-43	.04½	.04⅝

PENNSYLVANIA (inland refineries)—

45	.04⅞	.05⅛
46	.05⅛	.05¼
47	.05¼	.05⅜

CHICAGO (Based on Group 3)—

41-43	.04⅛	.04⅜
42-44	.04⅜	.04⅝

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.05	.06

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝	.04¾

***GULF COAST (domestic)—**

41-43	.04

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03¾	.04
No. 1 prime white, 38-42	.03⅝	.03¾
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03¾	.03½
No. 3 zero to 15, 28-32	.03¼	.03⅝
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03¾
No. 1 straw, 38-40	.03½	.03⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03¼	.03½

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅝

CHICAGO (Based on Group 3)—

Range oil	.03⅞	.04⅛
No. 1 prime white, 38-40	.03¾	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅝
No. 3, 15 and above, 28-32	.02⅞	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2		.04
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pour test, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.90
No. 5, low pour test, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pour test, 24-28	1.00	1.10
No. 5, low pour test, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.75	.82½

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low pour test, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low pour test, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour test, 10-16	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.03¾	.04

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.15	1.40
24 plus Diesel, per bbl.	1.05	1.40
24 plus Diesel (bunkers)	1.25	1.55
12-16 (bunkers at tidewater)	.80	.90
10-16 (cargo lots)	.65	.85
12-17 (tankcars)	.55	.90
10-17 (high sulfur)	.50	.85
San Joaquin Valley:		
10-18 (tankcars)	.60	.80
24 plus Diesel, per bbl.	1.20	1.50
San Francisco:		
24 plus Diesel, per bbl.	1.45	1.55
24 plus Diesel (bunkers)	1.50	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.03½
43-47 Diesel		.03½
48-52 Diesel	.03½	.03⅝
53-57 Diesel	.03⅝	.03¾
Bunkers (bulk cargoes)	.60	.65
Bunker C (bunkers)		.75

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 Diesel (lighterage 6¼c per bbl.)		1.75
28-30 Diesel (tankers)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. Harbor)		.95
Industrial fuel (tankcars)	.03¾	.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14¼	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour test	.17	.17½
15 pour test	.16	.16½
20 pour test	.15	.15½
25 pour test	.14	.14½
Steam refined:		
600	.08	.08½
650	.10	.10½
600 Pennsylvania flash	.10½	.11
630 flash	.13½	.14
600 Warren E filtered	.12½	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3	.09
180-3	.10
180-4	.09½
200-3	.10½
200-4	.10
250-3	.11½
250-4	.11
280-3	.12½
280-4	.12
300-6½	.13
400-3½	.14
100-2½ paraffin oil	.06
15-20 pour test:	
200-3	.10
200-4	.09½
250-3	.11
250-4	.10½
280-3	.12
280-4	.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07½	.07⅝
500-3½	.08½	.08⅝
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09⅝
1,500-4	.09⅝	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¾	.11½
700-6½ plus	.09¾	.11½
750-6½ plus	.09¾	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° color, 400-405 flash:		
Zero pour test	.17	.17½
10 pour test	.16	.16½
15 pour test	.15	.15½
25 pour test	.14	.14½
200 vis. at 70° F., 3 color:		
Zero pour test	.18	.18½
10 pour test	.17	.17½
15 pour test	.16	.16½
25 pour test	.15	.15½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02¼	.02½

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0245
124-126 (a.m.p.) w.c. scale	.0235	.0245

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0420
125-127 (a.m.p.) wax		.0435
128-130 (a.m.p.) wax		.0445
130-132 (a.m.p.) wax		.0455
133-135 (a.m.p.) wax		.0500
135-137 (a.m.p.) wax		.0515
124-126 (a.m.p.) w.s.		.0185
124-126 (a.m.p.) y.s.		.0185
Petrolatum in barrels, carload lots:		
Dark green	.02	.02⅛
Amber	.02⅜	.02½
Extra amber	.02⅝	.02¾
Lily white	.05⅛	.05¼
Snow white	.06⅛	.06¼
Cream	.04⅞	.04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.04¾
60-62 400		.04¾
61-63 390	.05⅛	.05¼
64-66 375		.05½

LOS ANGELES—

U. S. Motor grades:		
55-65 octane		.05
65-69 octane		.05¼
Above 69 octane		.05½

KEROSENE

GULF COAST—

41-43 prime white	.04
41-43 water white	.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright stocks:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0455
Crude scale:		
124-126 w.s.	.0185	.0200
124-126 y.s.	.0185	.0200

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

(Effective January 28, 1937)

East Texas (Aug. 29, 30 and Sept. 1, 1938)*	$1.25
Van, Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*Price posted by all companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90
Lisbon, La. (Dec. 13, 1937)*	.98

*Caddo Crude Oil Purchasing Co.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light (July 8, 1938)*†	1.05
Grass Creek, Wyo., heavy (May 1, 1938)*	.50
Hamilton Dome, Wyo. (May 1, 1938)*	.45
Elk Basin, Wyo., light (July 8, 1938)*†	1.05
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light (May 1, 1938)*	.65
Hogback, N. M. (Jan. 28, 1937)*	1.33
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.††	1.23
Rock Creek, Wyo.†	1.20½
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. M. (Jan. 2, 1937)‡	.90
Maljamar, N. M. (Jan. 28, 1937)‡	.90
Canon City and Florence, Colo.	1.10
Lance Creek, Wyo.*	.97
Lander, Wyo. (Jan. 1, 1938)§	.51¼
Sunburst, Mont. (Nov. 16, 1937)†	.90
Cat Creek, Mont. (Jan. 1, 1938)‡	1.30
Garland, Wyo. (Jan. 1, 1937)†	.50

*Stanolind Oil & Gas Co. and Ohio Oil Co. †Ohio Oil Co. ‡Continental Oil Co., Texas Co. (April 1, 1938). §Hudson Oil Co.

Gulf Coast

(Effective January 28, 1937)

Choctaw and Darrow, La. See note below	
Clay Creek, Tex.	$1.00
Garden Island, La.	1.37
Cleveland, Tex.	1.27
Hardin, Tex.	1.15
Lafitte, La.	1.24
Livingston, Tex.	1.27
Welsh, La.	.98
Tepetate (La.) (Jan. 28, 1937)	1.24

Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36. Effective October 1, 1937, Stanolind Oil & Gas Co. in Evangeline, La., pays 92 cents for below 20 gravity, adding 2 cents for each degree upward to 40 and over, at $1.34.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	$1.00
Centralia, Ill. (Aug. 8, 1938)‡	1.10 to 1.25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich. (Jan. 5, 1938)*	1.12
West Branch, Mich. (Aug. 9, 1938)†	.90
Buckeye (Jan. 8, 1938)	1.09½
Arenac, Mich. (Dec. 29, 1937)†	.80
Freeman-Redding (Mich.)	1.09½
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (July 1, 1938)	1.32
Kentucky River (July 1, 1938)	1.40
Western Kentucky (June 22, 1938)	1.30

*Posted by Pure Oil Co. †McClanahan P. L. and Simrall. ‡Posted by Owensboro Oil Corp. (Standard of Ohio).

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

West Texas

See gravity table.

Pecos County*	$ .91
Pecos shallow†	.81

*Shell Petroleum Corp., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Eastern States

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.
(Effective Sept. 1, 1938)

Bradford, Pa.	$1.68
Allegany, N. Y.	1.68

SOUTH PENN OIL CO.
(Effective Sept. 1, 1938)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	$1.68
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.34
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.28
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.18
Corning Grade Oil in Buckeye Pipe Line Co. line (Sept. 3, 1938)	1.07

PENNZOIL CO.
(Effective Sept. 1, 1938)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.61
Includes Cochran, Franklin, Hamilton and Doolittle district.	
Group B	1.60
Includes Tidioute district.	
Group C	1.59
Includes Turkey and Tidioute districts.	
Group D	1.58
Includes Bear Creek and Porkey districts.	
Group E	1.56
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	

Southwest Texas

(Effective January 28, 1937)

Pettus	$1.27
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09
Lytton Springs	1.12
Luling	1.00

Saxet and Taft take same gravity table as Gulf Coast.

Crude Prices by Gravities

	Oklahoma-Kansas	Oklahoma-Kansas	North and Central Texas	East Central Texas (Mexia district)	North Louisiana-Arkansas	Gray County, Texas	Hutchinson-Carson counties, Texas	Rodessa, Louisiana-Texas and Panola County, Texas	Conroe, Tomball, Raccoon Bend, (Deep) Sateuma	Gulf Coast	Gulf Coast	Lea County, N. Mex. West Texas except Pecos County	Mirando district, Texas	Marion County, Texas	Refugio, Greta, Saxet, Taft, Texas	Anahuac, Flour Bluff, Dickson, Turtle Bay	White Castle, Louisiana	Iowa, Louisiana	Cayuga, Texas
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Bel. 18	....	....	....	....	....	....	....	....	....	$.95	....	....	....	....	....	....	....	$.90	....
18-18.9	....	....	....	....	....	....	....	....	....	.95	....	....	....	....	....	....	....	.92	....
19-19.9	....	....	....	....	....	....	....	....	....	.95	....	....	....	....	....	....	$.94	.94	....
20-20.9	....	....	....	....	....	....	....	....	....	.95	$.95	....	$.96	....	$1.01	....	.96	.96	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.98	....	1.03	....	.98	.98	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	1.00	....	1.05	....	1.01	1.01	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	1.02	....	1.07	....	1.04	1.04	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.04	....	1.09	....	1.07	1.07	....
Bel. 25	....	$.98	....	....	$.90	....	....	$.93	....	....	....	....	....	$.90	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.06	.92	1.11	....	1.10	1.10	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	1.13	....	1.13	1.13	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	1.15	....	1.15	1.15	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	1.17	....	1.17	1.17	.96
Bel.29	$1.06	....	$.96	$1.03	....	....	....	....	1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	1.19	....	1.19	1.19	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	1.21	$1.16	1.21	1.21	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	1.23	1.18	1.23	1.23	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	1.25	1.20	1.25	1.25	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	1.27	1.22	1.27	1.27	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	1.29	1.24	1.29	1.29	1.08
Bel. 35	....	....	....	....	....	0.96	$.91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	.93	1.15	1.34	....	1.31	.98	1.26	1.12	1.31	1.26	1.29	1.29	....
36-36.9	1.22	1.22	1.12	1.19	1.14	1.00	.95	1.17	1.36	....	1.33	1.00	1.28	1.14	1.33	1.28	1.29	1.29	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	.97	1.19	1.38	....	1.35	1.02	1.30	1.16	1.35	1.30	1.29	1.29	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	1.37	1.04	1.32	1.18	1.37	1.32	1.29	1.29	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	1.39	1.06	1.34	1.20	1.39	1.34	1.29	1.29	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	1.41	1.08	1.36	1.22	1.41	1.36	1.29	1.29	....

Effective July 8, 1938, Standard Oil Co. of Louisiana posted prices in Buckner, Magnolia, and Village pools in Columbia County, Arkansas, as follows: Below 25 degrees 83 cents; 25-25.9 degrees 85 cents; with 2 cents added for each degree upward to and including 40 degrees and above at $1.15.

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Bay, Eason, El Dorado, Cities Service, Falcon, Globe, Gulf, Johnson, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.

Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.

Column 3—All purchasers.

Column 4—Humble Oil & Refining Co. and Sinclair Oil Purchasing Co.

Columns 5, 6, 7 and 8—All companies. Effective July 8, by Standard Oil Co. of Louisiana, Buckner, Magnolia and Village, Arkansas, 7 cents per barrel less than prices in Column 5.

Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)

Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41).

Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co. Column 12—Texas Co. and Sinclair Prairie Oil Marketing Co. schedules stop at 36 and above, $1. Column 13—All purchasers (effective July 6, 1937). Column 14—Magnolia Petroleum Co. Column 15—Humble Oil & Refining Co. (effective July 6, 1937.) Column 16—Humble Oil & Refining Co. Columns 17 and 18—Shell Petroleum Corp. Column 19—Tide Water Oil Co.

Crude Oil Price Changes

Superior Oil Co., effective September 1, announces a price of $1.14 per barrel for crude of 36 gravity and over in the Evangeline (Jennings) field in Acadia Parish, South Louisiana. The company announced that the cut was made to conform with the recent 10-cent cut in East Texas.

Globe Oil & Refining Co. put a new plan of purchasing oil in the Blackwell and Tonkawa, Oklahoma, districts into effect on September 2. The plan calls for a deduction of 15 cents per barrel for gathering and marketing the oil purchased, most of which the company says is conveyed by truck from the wells in districts not served by pipe lines. The arrangement affects less than 1,000 bbls.

It was said last week that Sun Oil Co.'s $1.25 price in East Texas was made effective on September 2. It should have said September 1.

Texas Wildcats

(Continued from Page 107)

deaux, A. Rohus Sur. A-1126. 6⅝-in. 3,254 ft.; P.B. 3,275 ft.; test O.S. 3,267-77 ft.

Sinclair Prairie No. 1 J. A. Hood, Blk. 18, A.T.N.C.L. Sur. Drlg. 2,050 ft.

Clay County

Walter Gant No. 1 Bryant Edwards, S. C. Beldon Sur. A-12. 6,000-ft. test. 6⅝-in. 5,990 ft.; S.L. 5,994-6,016 ft.; T.D. 6,354 ft.; P.B. 6,069 ft. and shot csg. to test.

Cooke County

Bin Indian Oil Co. No. 1 Alexander, T. Clevenger Sur., Abst. 1133. Drlg. 1,190 ft.

Sinclair Prairie Oil Co. No. 1 Mrs. J. D. Putnam, T. W. Ward Sur. No. A-1089. B.S.S.O. 4,970-83 ft.; tstg. show oil and S.W.; 9⅝-in. csg. 5,166 ft.; sd. 5,443-48 ft.; test S.W.; fsg. D.S.

Grayson County

O. L. McDougal No. 1 Jackson, H. Coffee Sur., Abst. 204; 4,000-ft. test. Spud. and S.D.

Mildred Oil Co. No. 1 L. C. Neatherly, Chas. Quillen Sur. S.S.O. 3,972-3,905 ft.; P.B. 3,897 ft.; perf. csg. with 69 shots; S.D.; stg.; est. 200 bbls.

Jack County

Benoil Co. No. 1 E. Hagg, Ain. McDonald Sur. A-1135. Drlg. 3,075 ft.

S. W. King No. 1 Ben Gunter, S. Pritchard Sur. A-459. 3,200-ft. test. Drlg. 1,100 ft.

Knox County

Roeser Pendleton and I.T.I.O. No. 1 G. H. Beavers, Sec. 151, H.&T.C. Sur. Drlg. 3,270 ft.

Montague County

L. T. Burns No. 1 Maggie Mitchell, J. W. Massie Sur. A-463. 4,000-ft. test. Drlg.

[illegible] Powell No. 1 Arch Durham W. J. Wagoner Sur. A-936. Drlg. 1,570 ft.

Sinclair Prairie No. 1 Hill. Blk. 71, L. C.S.L. Sur. Drlg. 1,550 ft.

Wichita County

Carey & Carey No. 1 J. A. Kemp, Blk. 59, K.W.V.F.L. Sur. Drlg. 3,400 ft.

Continental Oil Co. No. 1 State Ins. Asylum, Blk. 1, Cherokee Co. Sch. Ld. 6⅝-in. 5,075 ft.; SL. 5,076-5,128 ft.; drlg. plug; flwd. 90 bbls. in 3 hrs.; trtd. with 8,000 gal acd.; est. 150 B.P.D.; S.O. 5,344-81 ft.; tstg.

Wilbarger County

Consolidated Oil Co. No. 1 Ancell, sec. 35, H.&T.C. Sur. 10-in. 112 ft.; 6⅝-in. 4,070 ft.; W.O.C.

Phillips Pet. Co. No. 1 M. Servatius, Sec. 78, H.&T.C. Sur., Blk. 14. Spd.

Young County

Homestead O. & G. Co. No. 1 Stephens, M. Dobbs Sur., Abst. 1416. Drlg. 3,665 ft.

Horwitz & Oldom No. 1 C. J. Taach B. sec 248, T.E.&L. Sur. 6⅝-in. 4,113 ft.; drlg. 4,510 ft.

R. V. Tidewell No. 1 J. N. Ivey, F. L. Green Sur., Abst. 105. Drlg. 1,300 ft.

Union Prod. Co. No. 1 Corley, J. F. Clard Sur., Abst. 2202. S.D.O.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1938 High	1938 Low	Week ending Sept. 10 Sales	Week ending Sept. 10 High	Week ending Sept. 10 Low	Week ending Sept. 10 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
78	55	400	67½	67	67½	Amerada Corp.	788,675	N.P.	50cQ	7-30-38	$2.00	114⅞	51½	125½	75
27⅜	17¾	3,200	23½	22⅛	22⅛	Atlantic Refining	2,663,999	$25	25cQ	9-15-38	1.00	37	18	35¼	26⅝
23⅜	12⅛	3,400	21	19¼	19¼	Barber Asphalt Co.	390,223	$10	75c	12-16-37	1.00	43⅜	10⅛	38½	21
21⅜	10⅛	9,200	18⅛	17	17⅛	Barnsdall Oil Co.	2,250,344	$5	25cQ	8-1-38	1.00	35¼	10	28¼	14⅛
10⅜	7	12,500	9⅛	8¾	8¾	Consolidated Oil Corp.	13,915,167	N.P.	20cQ	8-15-38	.90	17⅞	7	17¼	11½
35¾	21¼	6,100	30	28½	28½	Continental Oil of Delaware	4,682,583	$5	25cQ	9-30-38	1.50	49	24	44⅞	28⅛
9⅝	5	4,500	7¾	7¼	7½	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	17⅝	4¾	13⅞	6⅝
22⅝	12¼	2,500	17	16¼	16¾	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-38	1.50	35⅜	14	30⅞	17⅛
17¾	10⅝	200	15½	14½	14½	Mission Corporation	1,382,945	$10	$1	6-29-38	1.25	34	15	29⅞	16⅝
23	14⅛	2,600	17¾	16⅝	17	National Supply	1,155,170	$10	$2 pf.‡	12-22-37	(‡)	41⅜	17⅝	75½	19⅜
14⅞	9	6,100	10½	9⅞	9⅞	Ohio Oil Co.	6,563,377	N.P.	50c	12-15-37	1.00	22⅞	8	18	12⅛
15⅞	10¼	100	12½	12½	12½	Pacific Western Oil	1,000,000	N.P.	75c	12-15-37	.75	29⅜	11⅜	23½	11⅜
9¼	7	No sales	..	..	..	Pan American Pet. & Trans.	4,702,945	$5	$1 •	12-21-37	1.00	17⅛	7	20⅝	12¼
44⅜	27¼	4,600	40¼	39	39¼	Phillips Petroleum	4,449,052	N.P.	50cQ	9-1-38	2.75	64	30⅛	52⅜	33⅛
25⅜	15	1,700	23¾	22¼	22¼	Plymouth Oil Co.	1,029,800	$5	35cQ	6-30-38	1.65	29⅞	13	27⅜	11⅞
13½	8¼	9,600	10⅝	10	10⅛	Pure Oil Co.	3,285,120	N.P.	25c	12-1-37	.25	24⅜	8¾	27⅞	16
8⅞	5	7,300	7¾	7⅜	7½	Richfield Oil Corp.	3,896,638	N.P.	25c	12-24-37	.25	6½	4⅛	..	..
27½	15½	2,800	21¼	20¼	20¼	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-38	1.00	54⅛	16	44	30½
18⅜	10	4,000	15¾	14¼	14⅜	Shell Union Oil	13,070,625	N.P.	35c	7-15-38	1.00	34⅜	14⅞	28¼	14⅜
34⅜	18½	2,000	26¾	22	22½	Skelly Oil	1,003,949	$15	50c	6-25-38	1.50	60⅝	26½	47⅜	19½
16⅜	10¾	22,100	13⅞	12⅞	13⅛	Socony-Vacuum	31,151,071	$15	25c	9-15-38	.80	23¼	13	17½	12⅛
34⅞	25⅛	4,500	31	29¾	30	Standard Oil of California	13,014,754	N.P.	35cQ†	9-15-38	2.00	50	27½	47⅝	35
35½	24⅜	9,100	30¼	29	29	Standard Oil (Indiana)	15,267,030	$25	25cQ	9-15-38	2.30	50	26½	48½	32⅜
35½	22½	No sales	..	..	..	Standard Oil of Kansas	112,837	$10	$5	12-20-37	5.00	43	30⅝	31	25
58⅜	39¾	13,300	54½	51¾	51¾	Standard Oil of New Jersey	26,224,767	$25	$1SA†	6-15-38	2.50	76	42	70⅜	51¼
59	45	400	52½	51½	51½	Sun Oil	2,316,484	N.P.	25cQ	9-15-38	$1 & 8% Stk.	77½	44½	91	70
4¼	1¾	5,500	3¼	3	3	Superior Oil Corp.	1,388,079	$1	....	....	....	7¾	1½	6¾	3
49⅝	32⅝	14,800	45⅝	42⅞	43	Texas Corp.	10,875,006	$25	50cQ	10-1-38	2.25	65½	34¾	55¼	28⅜
5¼	2⅝	2,500	4½	4⅛	4⅛	Texas Gulf Producing Co.	888,138	N.P.	10c	12-23-37	.10	9⅝	2	8⅞	4⅜
12½	7	3,000	10⅞	10⅛	10⅛	Texas Pacific Coal & Oil	888,237	$10	10c	9-1-38	.40	16⅝	5⅜	15¼	7⅛
15¾	10⅛	4,000	13	12⅝	12⅝	Tide Water Associated	6,369,175	$10	25cQ	9-1-38	1.20	21⅝	13⅛	21⅜	14⅝
22½	17⅛	3,500	20½	20	20	Union Oil of California	4,666,270	$25	30cQ	8-10-38	1.40	28¼	17½	28½	20⅝
23½	20	600	21⅛	20⅜	20⅝	Union Tank Car Co.	1,200,000	N.P.	30cQ	9-1-38	1.60	31½	22	31⅝	22⅝
3½	1⅝	300	2⅜	2⅜	2⅝	Wilcox Oil & Gas	506,522	$5	....	5-10-28	....	6¼	1⅜	5¼	2⅜

*Payable in 3½% notes. †Includes extras. ‡One-tenth share $2 preferred stock

New York Curb Exchange

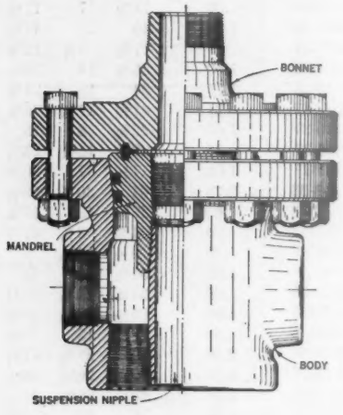
1938 High	1938 Low	Week ending Sept. 10 Sales	Week ending Sept. 10 High	Week ending Sept. 10 Low	Week ending Sept. 10 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
11¾	5	2,000	9⅞	9	9	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.40	10	6⅝	..	..
10¼	5⅛	500	6⅝	6¼	6¼	Bridgeport Machine Co.	260,000	N.P.	1.25	12-30-37	$2.00	21⅜	7	21	13¼
39	27½	250	28¾	27½	27½	Buckeye Pipe Line Co.	200,000	$50	25c	9-15-38	3.75	51½	36	50	39⅝
113¾	97	100	113¾	113½	113¾	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-27-38	7.00	123	95½	124¾	105
11	7	2,500	7⅜	7	7	Cities Service (new)	3,714,317	$10	....	6-1-32	....	5⅜	1½	7⅜	3
2⅜	⅞	300	1⅜	1¼	1⅜	Cosden Petroleum	462,551	$1	....	.....	....	5½	1½	4½	1⅜
27½	17½	1,200	21½	20⅛	20⅛	Creole Petroleum	6,975,383	$5	50cSA†	6 10-38	1.00	38¾	20¼	39	19⅜
10¼	5½	100	8¾	8¾	8¾	Darby Petroleum	351,390	$5	25cSA	7-15-38	.50	18⅝	6½	18⅛	9
3½	1⅞	300	2	1⅞	2	Derby Oil & Refining	263,162	N.P.	....	....	....	8⅜	2¼	6⅜	1⅞
31	21	No sales	..	..	..	Eureka Pipe Line	50,000	$50	50c	8-1-38	4.00	47½	24½	47½	38½
46⅞	33	2,600	42⅞	40	40¼	Gulf Oil Corp.	9,076,202	$25	25cQ	10-1-38	1.00	63½	33	59	36
72⅝	56	2,000	67	65⅛	66	Humble Oil & Refining	8,987,840	N.P.	62½c	10-1-38	2.00	87	54⅞	80	57
19½	15	2,300	17	16⅜	16⅜	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-38	1.25	24¼	14½	24½	19⅝
9⅜	6⅝	100	7⅛	7⅛	7⅛	Indiana Pipe Line	300,000	$10	30c	5-14-38	.80	15	5⅞	9⅜	5½
31¼	23	1,900	26¼	25⅝	25⅝	International Petroleum	14,324,088	N.P.	$1.25†‡	6-1-38	2.50	39½	23½	39⅝	32⅝
5	3	No sales	..	..	..	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	....	8¾	2⅜	5¾	2⅝
25⅛	15⅝	3,000	23	21⅝	21⅝	Lion Oil Refining	434,820	N.P.	25cQ	7-25-38	1.50	34	12½	17¾	7⅜
10¼	6⅝	3,600	9¼	8⅝	8⅝	Lone Star Gas	5,533,747	N.P.	20c	8-20-38	.60	14¼	5¼	14¼	9⅞
9⅜	6⅜	2,700	7¼	7⅛	7⅛	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	9-15-38	.50	15¼	6⅜	15⅝	9⅞
9¼	6⅜	600	8⅝	8⅛	8⅛	Midwest Oil Co.	998,444	$10	50c	6-15-38	1.00	14⅝	6¼	..	..
5¾	4½	400	5¼	5	5¼	Mountain Producers	1,593,584	$10	30cSA	6-15-38	.60	7⅞	4⅛	8⅜	5
14⅝	11⅝	2,700	12⅛	11⅞	11⅞	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-38	1.00	19½	12	23	17⅜
9¼	7⅛	700	7½	7⅛	7⅜	National Transit	509,000	$12.50	35cSA	6-15-38	1.00	12½	7¼	15⅜	9¼
2⅝	1½	400	1½	1½	1½	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	....	5	1⅛	6⅝	1⅝
4½	4	100	4	4	4	New York Transit	100,000	$5	15c	4-15-38	1.00	5⅜	3⅞	6¼	4¼
6	4	100	5	5	5	Northern Pipe Line	120,000	$10	20c	6-1-38	1.00	12¾	5¾	9¾	4⅞
7⅜	3¾	3,900	4½	4⅛	4⅛	Pantepec Oil	2,441,142	$1	....	.....	....	9⅝	2⅜	10⅛	3¼
3½	1⅝	100	2⅛	2⅛	2⅛	Root Petroleum Co.	336,045	$1	25c	2-1-37	.25	13⅜	2	19¼	4½
4	2⅛	300	3	3	3	Ryan Consolidated	296,931	N.P.	....	.....	....	6½	2¼	4⅜	1⅞
5⅜	3⅜	300	3¾	3⅝	3⅝	Southern Pipe Line	100,000	$10	15cSA	9-1-38	.45	7¼	3⅞	7⅞	3¼
39	28¾	100	33	33	33	South Penn Oil	1,000,000	$25	37½cQ	9-30-38	3.65	56	35	44	32½
22¼	19	No sales	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	7-1-38	2.00	42	20	60	44
18¾	15	800	18⅛	17¾	18	Standard Oil of Kentucky	2,604,790	$10	25c	9-13-38	1.50	21⅛	14⅜	23⅜	17⅛
8¾	6⅛	200	8½	8½	8½	Standard Oil of Nebraska	166,403	$25	25c	3-29-37	.25	13¾	8	14⅝	11
22¾	16¼	800	20¾	20	20½	Standard Oil of Ohio	753,740	$25	25c	9-15-38	1.50	45	16	40	21⅜
3¼	2⅛	900	2¾	2⅝	2⅝	Sunray Oil	2,006,176	$1	10c	12-24-37	.25	4⅞	2	5	2⅝
5	3½	400	5	4¾	4¾	Texon Oil & Land	936,024	$2	15cQ	9-30-38	.45	7⅝	2	9¾	5⅝
7⅝	4¼	No sales	..	..	..	Transwestern Oil Co.	750,000	$10	....	.....	....	13⅜	4⅝	..	..
5¼	2¾	5,800	3⅝	3¼	3¼	United Gas Corp.	7,818,959	$1	...	.....	....	13¾	3	10¾	4

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock.

New or Improved Equipment

Weight of the Tubing Assists in Sealing off Tubing-Hanger

In the Type LH series of National tubing-heads, described in a bulletin issued by the National Supply Co., Toledo, Ohio, the weight of the tubing assists in sealing off the tubing-hanger. Therefore, when the casing pressure is not too great to overcome the weight of the tubing, the christmas tree can be removed and stripper equipment installed for moving tubing under pressure. The christmas tree is assembled on the bonnet, which can be flanged to the body without rotation.



LH-3 TUBING HEAD

The LH series is made in three types. Type LH-3, illustrated, has a mandrel hanger with a bolted-on bonnet. The LH-3D is of the slip suspension type, having a stripper rubber at the lower end of the tubing-hangar, and is particularly convenient in setting tubing-packers. The LH-3F is a mandrel hanger type head for lower pressures with split flanges to assist the weight of the tubing in sealing off the tubing-hanger.

Paul Warner Joins Frick-Reid

Paul R. Warner, special representative of the First National Bank & Trust Co., Tulsa, for the past several years has resigned from the bank to join the Frick-Reid Supply Corp. as credit manager. Mr. Warner was connected with the bank 20 years, and brings to his new position a thorough background of banking and credit experience, particularly as it applies to the needs and requirements of the petroleum business and to its close companion, the supply business.

Bulletins, Booklets and Other Literature for the Trade

Fairbanks wheelbarrows, scrapers, etc., are discussed and pictured in a 22-page catalog prepared by the Fairbanks Co., New York.

Accompanied by especially interesting views, an article in the current number of the Yellow Strand, published by Broderick & Bascom Rope Co., St. Louis, Mo., discusses offshore drilling on the Gulf Coast. The article, by Donald E. Dickey, research engineer for the company, is entitled, "Oil Beneath the Waters."

Goulds Pumps, Inc., Seneca Falls, N. Y., announces a bulletin describing the new line of Figure 3390 centrifugal pumps. These pumps are two-stage, with opposed, hydraulically balanced impellers for heads up to 1,000 feet.

A 12-page booklet just published by the Weston Electrical Instrument Corp., Newark, N. J., contains information about the Weston all-metal thermometers. Sectional views of the gauges typical scale faces and side views are shown.

Oil-immersed autotransformer-type reduced-voltage A-C magnetic starters are described in bulletin GEA-2954, obtainable from General Electric Co., Schenectady, N. Y.

A 32-page bulletin, "Bailey Meter Control," describing applications of the Bailey steam flow-air flow automatic readjustment type of air-operated combustion control, has just been published by Bailey Meter Co., Cleveland, Ohio. The bulletin explains fundamental principles involved in controls, both for boilers fired with stokers and for those fired with fuel in suspension.

New Names Appear in Official Family of Lane-Wells Co.

Changes in personnel and plans for expansion are announced by Walter T. Wells, president of the Lane-Wells Co. The personnel changes are effective September 15. Coincident with this announcement by Mr. Wells is one by W. G. Lane that he is retiring from active participation in the management of the company on account of poor health. Mr. Lane retains a substantial stock interest.

Rodney S. Durkee, formerly comptroller of the Socony-Vacuum Co., Inc., New York, and for many years an officer and director of major oil companies, has been elected executive vice president of Lane-Wells, with offices in Los Angeles.

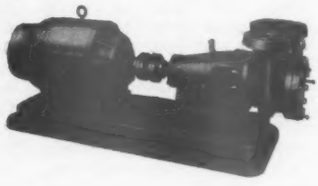
Norman L. Dorn, chief engineer in charge of operations, and M. E. Montrose, manager in charge of the Gulf Coast Division, have been elected to the board of directors, which includes, in addition to Mr. Wells and Mr. Durkee, Miss B. G. Peters, a member since the company was organized. These additions bring to the board of directors men long experienced in oil field service operation and give representation to every division of the company's engineering and field organizations.

Expansion plans include construction of new equipment, consisting principally of truck units for extension of Lane-Wells gun-perforating and electrolog service in coastal and Mid-Continent fields.

Sales of Lane-Wells products and services have reached an annual volume of more than $2,000,000, according to Mr. Wells. In anticipation of an increased demand, the company will extend its operations to provide more comprehensive services in all its fields of operation, including gun-perforating, electrical logging, oriented and magnetic survey services and magnetic survey instruments, packers and liner hangers, bridging plugs and dual seal cementers.

Ingersoll-Rand Introduces New Line of Pumps for Refinery

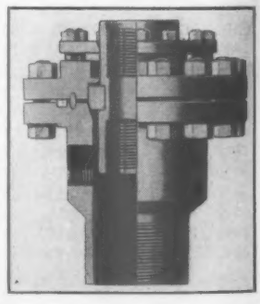
A new series of refinery process pumps, known as the Class FH and FL, has been announced by the Ingersoll-Rand Co. Built in capacities to 800 g.p.m. and heads to 400 feet, these pumps are designed for such refinery processes as those in which hot oils, distillates, bottoms, cold oils, propane, butane, solvents, etc., are handled. They will handle fluids at any temperature and are constructed for continuous operation on severe service.



The pump is supported by an extra-heavy one-piece cradle which combines the connecting piece, the bearing housing, and a water-jacketed oil reservoir. Its design is such that suction and discharge connections are integral with the casing. They open vertically and are therefore self-venting. Positive lubrication of the bearings is effected by rotary discs, the oil being contained in a large water-jacketed reservoir and circulated to effect thorough cooling. The stuffing-box is likewise watercooled, reducing heat transfer to the pump-shaft and bearings. It is extra deep to receive a sealing cage if conditions warrant. Wearing rings on the impeller permit the renewal of worn parts with standard parts from stock. Descriptive literature is obtainable from Ingersoll-Rand, 11 Broadway, New York, or any branch office.

Kropp Forge Offering Special Service to Manufacturers

Kropp Forge Co., 5301 West Roosevelt Road, Chicago, maker of forgings for the oil industry, offers a specialized service to manufacturers of casing- and tubing-heads. A large stock of carbon and alloy steels of corrosion and high-pressure stress resistant analyses is kept on hand to forge casing- and tubing-heads, wipers, blowout-preventers, valve bodies and fittings.

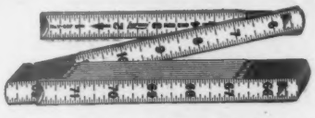


In addition to the dies carried for forging these parts, the plant is equipped to make dies to the specifications of any manufacturer. Heads are uniform in dimensions and structure, machine readily and are free from cracks, sponginess and holes.

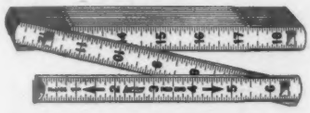
Regardless of the depth of the hole or the weight of the christmas tree, Kropp forged-steel casing- and tubing-heads provide strength to resist greater tensional, torsional and compression stresses than have been encountered in any field, according to the company. A bulletin, No. 630, describes Kropp's facilities for servicing manufacturers of oil-field and refinery equipment.

Vertical "Red End" Rules Are Never Upside Down to User

Vertical "Red End" rules, a new item in the "Red End" line of the Lufkin Rule Co., Saginaw, Mich., have inch numbers on both sides, placed



vertically, i.e., running perpendicularly from top to bottom (instead of the common way, horizontally left to right). With rule in either hand, verti-



cal figures face the user directly when measuring upward or downward, yet are easy to read also when measuring right to left or left to right. The figures are never upside down to the user.

Vertical "Red End" rules are offered in 6-foot length, in white-enamel finish, and in two types: No. V-66, with outside marking (zero of both ends falling outside when rule is closed); No. V-66F, with inside or flat marking (numbering commencing on inside face so measurement lies close to the work even with rule partly open).

Like all "Red End" rules, these are rust-proof; have solid brass strike-plates, reducing wear; solid brass lock joints, reducing end play and maintaining accuracy; sections of straight-grain, tough and flexible hardwood; graduations in sixteenths of inches, on both edges of both sides; superior snow-white enamel finish, and ends in gloss red. They are supplied with or without folding end hook.

Sperry-Sun Changes on West Coast

Dwight C. Roberts has been appointed regional manager of the Pacific Coast territory for Sperry-

D. C. ROBERTS *W. H. EMERSON*

Sun Well Surveying Co., Philadelphia, Pa. He will have supervision of all Sperry-Sun's activities in the West Coast area, with headquarters in Long Beach, Calif.

W. H. Emerson has been appointed district manager of the Long Beach district with headquarters in Long Beach.

Here and There With Men Who Manufacture Equipment

C. C. Sowerby is now southwestern sales manager for American Air Filter Co., Inc., and is located at 900 South Ervay Street, Dallas, Tex.

Fred Dewel, formerly with Bovaird Supply Co., now represents Franks Manufacturing Co., McKissick Products Corp., Oil Well Improvements Co., and Deckard Manufacturing Co. His headquarters are in Mount Vernon, Ill., and his territory includes Illinois, Michigan, Indiana and Kentucky.

Frank D. Newbury has been appointed manager of the new products division of the Westinghouse Electric & Manufacturing Co. He succeeds Herbert Mygatt Wilcox, who died July 28. Mr. Newbury will retain his present duties as economist for the company.

Wailes Dove-Hermiston Corp., New York, has appointed the Careva Co., York, Pa.; Lindquist Hardware Co., Bridgeport, Conn.; Bradford Supply Co., Warren and Titusville, Pa.; Hays Supply Co., Memphis, Tenn., and Bittenbender Co., Scranton, Pa., as stock-carrying distributors for the Bitumastic line of industrial maintenance protective coatings.

J. & L. District Office in Houston

Opening of a district sales office for the Southwest in Houston, Tex., and the appointment of Frank D. Winslow as district sales manager are announced by Jones & Laughlin Steel Corp., Pittsburgh, Pa. The importance of the Southwest as a growing factor in steel consumption prompted Jones & Laughlin to select Houston as a mill depot for a complete stock of oil-country tubular goods, with a branch office in Dallas. The company has had branch offices in Houston and Dallas for years and the present staffs will be enlarged to cover this territory which will include Texas and New Mexico.

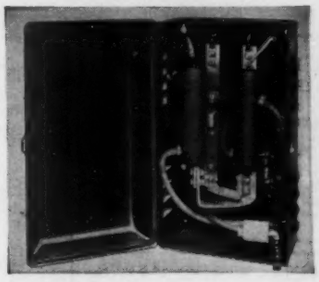
Mr. Winslow, a newcomer to the J. & L. organization, has been engaged in sales work since leaving the University of Nebraska in 1920. He has represented various steel companies in the Chicago territory and the Southwest. Curt C. Noel, district sales representative, will be in charge of the Dallas branch office, under the jurisdiction of Mr. Winslow.

Macwhyte Stock in San Francisco

The Macwhyte Co., Kenosha, Wis., has opened a San Francisco warehouse at 749 Bryant Street, where a complete stock of wire rope will be carried. Fred M. Sime, formerly with Hazard Wire Rope Co., has been appointed sales manager for central and northern California and for eastern Nevada.

Instantaneous Power Switch Is Afforded by "Weld-o-trol"

For welding mild steel products and other readily welded metals, a new Weld-o-trol electronic power switch for controlling the primary of welding transformers and suitable for use with exist-



ing timing devices, is announced by Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa. With either sealed-off or continuously pumped ignitron tubes, the Weld-o-trol offers an instantaneous power switch for producing uniform welds, and is free of moving parts, arcing contacts and noise. Available ratings are roughly equivalent to 300- and 600-ampere conventional welding contactors.

The Weld-o-trols equipped with sealed-off tubes consist of a sheet-metal cabinet in which are mounted a bus bar assembly, electrical connections and a flow switch. The assembly is of the same general construction for all tube ratings, but has copper and construction suitable for the current ratings involved.

The only electrical connections required are one power cable entering the unit and one leaving the unit, the Weld-o-trol acting as a single-pole, single-throw switch, and two control-leads from the timer. No added control voltage is required, as the Weld-o-trol contains all necessary voltages for operating it and, therefore, no additional power supply should be inserted in the control circuit.

Acme Service Extended

Acme Oil Tool Co., 1001 Southeast Twenty-ninth Street, Oklahoma City, Okla., is now offering McCullough Tool Co. gun-perforator service and Shaffer Tool Works rental service on releasing spears and overshots. Acme Oil Tool Co., which manufactures cutting and fishing tools and knife perforators, covers the entire Mid-Continent and Gulf Coast areas. Bill Bendeler and Cliff Howard are officers.

WELL IN YOUNG COUNTY ACIDIZED IN 59 MINUTES

Chemical Process Co., Breckenridge, Tex., shows here a portion of the fleet of 20 Hobbs trailer units equipped with 1,000-gallon tanks and pressure

pumps used recently in acidizing a well in Young County, Texas, with 20,000 gallons of acid. Ten pumps were connected and they delivered fluid simultaneously. The acid charge was followed with an oil load of 230 bbls. Overall treating time of 59 minutes for both acid and oil load set a new record. The complete Chemical Process Co. fleet includes 71 trucks and 31 Hobbs special tank trailers.

CLASSIFIED ADVERTISING

Patent Attorneys

JACK A. SCHLEY
PATENT LAWYER
Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 2014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

PATENTS — TRADE MARKS
All cases submitted given personal attention.
Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorneys' Fees—FREE
LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg. Washington, D. C.

PATENTS obtained — inventions developed — working drawings — engineering advice. Mid-Continent Engineering Company, E. H. Waldrop, Shawnee, Okla.

Leases and Drilling Blocks

SECURITY ABSTRACT COMPANY
El Dorado, Union County, Arkansas, Magnolia, Columbia County, Arkansas. Fee, Lease and Mineral ownership on short notice. Ownership maps.

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up. Owners—Address Attorney, Box 1122, Little Rock, Ark.

WHY PAY big prices for Oil Leases when potential land in fee, all royalty, can be bought for $5. Investigate. J. N. SWANSON, Sayre, Oklahoma.

DRILLING deals wanted 50,000 acres Southern Illinois in and around production area. Elmer Gant, Anna, Illinois.

BUY UNDER DRILLING WELL ON SABINE UPLIFT
Will sell small part of our leases in 10, 20, and 40 acre tracts to help meet expenses of drilling well which is now down 500 feet, on south flank of Sabine Uplift, Louisiana.
Also have limited number of producing royalties in Duval County, Texas.
JOSEPH E. POPKINS
Natl. Press Bldg., Washington, D. C.

NEW MEX. LEASES; Lea, Eddy, Chaves, Roosevelt, other SE Counties. 40,000 ac. blks. or spreads. Legitimate inquiries invited. GEO. M. COWELL Co., 412 W. 6th St., Los Angeles, California.

FOR SALE—Blocks of 100 to 10,000 acres 5 to 10 year term oil and gas leases located on structures near oil and gas producing wells. Two structures are geologically approved. Depth of drilling 450 to 800 feet. W. P. Harley, Bowling Green, Kentucky.

BROKERS—ATTENTION—TEXAS
Hudspeth Co. 400 ac. fee, all or part, $5 per ac. Level, fine geol. Near drlg., major blks. Cowell Co. 412 W, 6 St., Los Angeles.

ILLINOIS 60,000 acres in and near production. Illinois Minerals Company, Cairo, Illinois.

PARTY now conducting special geophysical exploration surveys for oil promise is often in contact with drilling block opportunities, leases, production, royalties and sometimes capital for development where favorable conditions exist. P. O. Box 364, Fort Worth, Texas.

NOTICE
500 acres, 5 yr. leases—Northern Clay County, Illinois—5-N, 5-E. Will turn this for small bonus and a drilling contract. Leo H. Graves, Farina, Illinois.

Leases and Drilling Blocks

N. MEX. weekly Oil Scout Report up to minute locations and developments. Send $1.00 for 2 months' service. Roy G. Barton, Hobbs, New Mexico.

100 A. S.W.¼, 8-3N-5W Grady Co., Okla. 10 A. leased producing well. Nine new wells joining, drilling two sides 1600-2800 ft. Ellen Woods, 337 S. Victor, Tulsa. Ph. 2-4770.

BREWSTER COUNTY—TEXAS
Offer small tracts of land in fee all minerals included CHEAP. Write A. C. Smith, P. O. 200, San Antonio, Texas.

SEVERAL surface mapped oil structures, edge Permian Basin. You check and deed me land, small mineral rights. Address Box J-540, The Oil and Gas Journal, Tulsa, Oklahoma.

ILLINOIS BLOCKS of acreage available, for ninety day drilling commitments, in shallow sand, and deeper lime areas in Bond, Fayette, Clay and Wayne Counties.
BOX 57, FLORA, ILLINOIS.

N E KANSAS shallow gas acreage. Lease furnished and well drilled bottom hole money. Box 435, Lawrence, Kansas.

FOR SALE—75% interest in 840 acres semi-proven Oil and Gas leases near Celina, Tenn. Within one mile of proven acreage. Drilling rates reasonable. Frank H. Blum, Agent, 1205 Union Trust Bldg., Cincinnati, Ohio.

Survey Service

THE DOWSING METHOD for locating oil structures, faults, and treacherous areas, operates on the principal of vibratory response to emanations from petroliferous sub-strata. Our WATSON No. 2, pioneer well of the Wilmington, Calif., field was located by this method and all my personally owned production. 15 years' experience. This physico method may solve all your structural difficulties. Geo. Miller, 1548 Post Avenue, Torrance, California. Phone 983.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Mailing Lists

ROYALTY Lists. Unit Owners Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Situations Wanted

CIVIL Engineer, wants foreign work as junior engineer. Four years of varied experience as instrumentman and draftsman. Age 26. Excellent health. Single. Address Box J-541, The Oil and Gas Journal, Tulsa, Oklahoma.

NOW AVAILABLE. Executive and Accountant. 18 years experience with independent producing companies. Thorough knowledge accounting, financing, stock registration, federal and state taxes and business law. Desire connection with company needing services in line with these qualifications. Address Box J-532, The Oil and Gas Journal, Tulsa, Oklahoma.

YOUNG Geologist desires position with oil or gas company. Experienced in surface and subsurface work. Foreign work considered. Address Box J-554, The Oil and Gas Journal, Tulsa, Oklahoma.

GRADUATE Engineer. 15 years' experience, oil and production and distribution natural gas, repressuring oil sands. 3 yrs. with state service commission regulating gas companies. Employed, desire change, prefer producing oil. Address Box J-553, The Oil and Gas Journal, Tulsa, Okla.

GRADUATE Petroleum Engineer with 20 years' experience as Drilling and Production Superintendent in Mid-Continent and Gulf Coast areas, 42 years old, Single. Now employed. Good reason for desiring change. Sober. Good habits. Good character. Excellent references. Address Box J-560, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

WANTED—Mechanical Engineer familiar with oil field pumping equip. to take charge of mfg. and designing equip. State exp., age, and references. Replies strictly confidential. Address Box J-543, The Oil and Gas Journal, Tulsa, Okla.

For Sale—Maps

1938 REVISED EDITION
MAP of State of Texas, Eastern N. M., parts of Southern Okla., SW Ark. and La., shows Oil and Gas Fields in color, Counties, County Seats, elevations, coordinated alphabetical index of counties and fields.
Price $1.00 postpaid

Write for descriptive folder of Oilfield and County Ownership Maps.
ZINGERY OIL MAP COMPANY
Fair Building Fort Worth

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

Producing and Non-Producing
OIL ROYALTIES
Registered Dealers Only
GRIMES ROYALTY CO.
Hunt Bldg. Tulsa, Okla.

ROYALTIES—ADEQUATE RESERVES
G. D. TERRIEN
412 Central Bank Bldg., Tulsa, Okla.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
703 Kennedy Bldg., Tulsa, Okla.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Hobbs, New Mexico.

WRITE US TODAY
For our offering of producing and nonproducing oil royalties.
RUBUSH and COMPANY
1307 Pacific Ave. Dallas, Texas.

Legal Blanks

Since 1908 Burkhart's legal forms have served the Oil Industry—Free catalog & samples. Burkhart Printing & Sta. Co., 115 So. Cincinnati, Tulsa, Oklahoma.

Geophysical Service

CAN FIND any oil structure that will produce when penetrated. P. O. Box 303, Tonkawa, Oklahoma.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Business Opportunities

"INVENTORS: ATTENTION."
An old established manufacturer of oil field equipment having large plant desires to fabricate new patented items pertaining to Rotary Drilling, Production and Pumping. Address:
BOX J-561
The Oil and Gas Journal,
Tulsa, Okla.

NATURAL GAS PIPED FROM MONTANA Into Twin Cities, Iron Range, etc., will make you a fortune if able to purchase 160 to 4000 acres "NOW," in the longest PROVEN gas field in the world. Near Baker, Montana. Write to J. P. Blichfeldt, 813 Phoenix Bldg., Minneapolis, Minn.

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Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma